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A Report of the

NATIONAL MARKETING SERVICE WORKSHOP

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JUL 25 1955
U. S. DEPARTMENT OF AGRICULTURE

Columbus, Ohio, Nov. 16 - 18, 1954

A Summary of Proceedings
Including Recommendations
for Improving Marketing
Service Programs Under the
Agricultural Marketing Act

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
Washington, D. C.
December 1954

Agriculture - Washington

AMS-9

PREFACE

At its meeting on Dec. 14-16, 1953, the Advisory Committee on Cooperative Work under the Agricultural Marketing Act with State Departments of Agriculture suggested that another National Marketing Service Workshop be held in 1954. The committee decided that a workshop devoted to discussing ways of improving marketing service programs would be most helpful to the States.

This workshop, held in Columbus, Ohio, Nov. 16-18, 1954, was attended by 128 marketing specialists from 30 States, the territory of Alaska, the Commonwealth of Puerto Rico, and the United States Department of Agriculture. The main topics studied were: (1) How to improve market information, (2) how to maintain the quality of agricultural products as they move through marketing channels, (3) how to reduce marketing costs, and (4) how to expand outlets for farm products.

This report contains the talks that were made at the conference, the conclusions of the six commodity working groups as to the best ways of performing the four types of service studied, and a list of the persons in attendance. It is hoped that this report will be studied by all persons interested in marketing service work, and that the information contained in it will be helpful in improving these services.

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PROGRAM

NATIONAL MARKETING SERVICE WORKSHOP

COLUMBUS, OHIO - NOVEMBER 16 - 18, 1954

THEME OF CONFERENCE - HOW TO IMPROVE MARKETING SERVICE PROGRAMS

Headquarters
Southern Hotel

Opening Session
November 16, 9:00 a.m.

First Day

9:00 a.m. General Session. A. L. Sorensen, Director, Ohio Department of Agriculture, Chairman
Innovation by C. J. Carey of California
Greetings from The Ohio State University --
Dr. M. G. Smith, Chairman, Department of Rural Economics
Plans for the Workshop --
William C. Crow, Acting Liaison Officer, State Departments of Agriculture, AMS, USDA

HOW TO IMPROVE MARKET INFORMATION

What Research, Service, and Education is Needed to Improve Market Information Services?
Barnard Joy, ARS, USDA

10:45 a.m. - 12:00 noon Meetings of Conference Groups on Market Information
What is needed? How to get it? What to do with it?

Dairy

O. E. Krause, Wisconsin, Chairman
Louis Herrmann, AMS, Secretary
Discussion Leader:
William I. Bair, New York
John W. Kirkbride, Ohio

Poultry & Eggs

J. A. Ewing, Illinois, Chairman
Hermon Miller, AMS, Secretary
Discussion Leaders:
Matt Jennings, Tennessee
J. R. Harris, Illinois

Fruits & Vegetables

Davis Foreman, Illinois, Chairman
Arthur E. Browne, AMS, Secretary
Discussion Leaders:
R. B. Johnson, Louisiana
C. J. Borum, Michigan

First Day

Cotton & Tobacco

D. A. McCandliss, Mississippi, Chairman - Cotton
Marshall J. Goss, ARS, Secretary
Discussion Leaders:
H. F. Bryant, Kentucky - Tobacco
Fain Cesar, Oklahoma

Grain

R. P. Handy, West Virginia, Chairman
Roy Allgyer, ARS, Secretary
Discussion Leaders:
W. L. James, Virginia
John Mahoney, Maryland

Livestock

Sam Gilbert, Iowa, Chairman
George Turner, AMS, Secretary
Discussion Leaders:
R. T. Williams, Texas
Mancil Vinson, Kentucky

1:30-5:30 p.m. Continue Meetings of Conference Groups on Market Information

AGENCY RELATIONSHIPS IN MARKETING PROGRAMS

8:00 p.m. General Session. George H. Chick, Chief, Division of Markets, Maine Department of Agriculture, Chairman

Marketing Services in a Marketing Program
O. V. Wells, Administrator, AMS, USDA

Need for Greater Coordination of Marketing Research, Service and Educational Programs in the States
L. Y. Ballentine, Chairman, Advisory Committee on Cooperative Work under the Agricultural Marketing Act with State Departments of Agriculture

Second Day

HOW TO MAINTAIN QUALITY IN MARKETING AGRICULTURAL PRODUCTS

9:00 a.m. General Session. L. Y. Ballentine, Commissioner, North Carolina Department of Agriculture, Chairman

How to Reduce Deterioration and Spoilage of Agricultural Products in Marketing Channels
Dr. Wilbur Pentzer, Biological Sciences Branch, AMS, USDA

Second Day

9:45 a.m. - 12:30 p.m. **Meetings of Conference Groups on Quality Maintenance**

Where do losses occur? What causes them? How can they be reduced?

Dairy

Harvey Weavers, Wisconsin, Chairman
Louis Herrmann, AMS, Secretary
Discussion Leaders:
V. C. Manhart, Indiana
Frank B. Ford, Mississippi

Poultry & Eggs

Mancil Vinson, Kentucky, Chairman
Hermon Miller, AMS, Secretary
Discussion Leaders:
Charles Moser, Colorado
Paul R. Abbey, Virginia

Fruits & Vegetables

J. S. Vandemark, Indiana, Chairman
Arthur E. Browne, AMS, Secretary
Discussion Leaders:
Leon Scott, Mississippi
Walter Mason, New York

Cotton & Tobacco

Charles E. Campbell, West Virginia, Chairman
Marshall J. Goss, ARS, Secretary
Discussion Leaders:
Fred Johnson, North Carolina
M. M. Neck, Louisiana

Grain

John Winfield, North Carolina, Chairman
Roy Allgyer, ARS, Secretary
Discussion Leaders:
John Mahoney, Maryland
E. W. Siedschlag, South Carolina

Livestock

C. R. Underwood, West Virginia, Chairman
George Turner, AMS, Secretary
Discussion Leaders:
R. Q. Smith, Executive Secretary, Independent Livestock Marketing Association, Columbus, Ohio

Second Day

HOW TO REDUCE COSTS OF MOVING PRODUCTS THROUGH THE MARKETING SYSTEM

1:30 p.m. General Session. George H. Chick, Chief, Division of Markets, Maine Department of Agriculture, Chairman

Possibilities of Reducing Handling Costs
W. H. Elliott, Transportation and Facilities Branch, AMS, USDA

2:15 - 5:30 p.m. Meetings of Conference Groups on Reducing Handling Costs
What costs are too high? How can they be reduced?

Dairy

William J. Murphy, North Dakota, Chairman
Louis Herrmann, AMS, Secretary
How to Reduce Costs of Handling Dairy Products
C. E. French, Purdue University
Discussion - Donald E. Wilkinson, Wisconsin

Poultry & Eggs

Marvin Faller, Louisiana, Chairman
Hermon Miller, AMS, Secretary
How to Reduce Costs of Handling Poultry & Eggs
N. G. Paulhus, Transportation and Facilities Branch, AMS, USDA
Discussion - Ralph B. Kelly, North Carolina

Fruits & Vegetables

George H. Chick, Maine, Chairman
Arthur E. Browne, AMS, Secretary
How to Reduce Costs of Handling Fruits & Vegetables
Joseph F. Herrick, Transportation and Facilities Branch, AMS, USDA
Discussion - Jules Cherniak, New York

Cotton & Tobacco

C. E. Campbell, West Virginia, Chairman
Marshall J. Goss, ARS, Secretary
How to Reduce Costs of Handling Cotton & Tobacco
W. H. Elliott, Transportation and Facilities Branch, AMS, USDA
Discussion - Fred Johnson, North Carolina

Second Day

Grain

O. W. Faison, North Carolina, Chairman
Roy Allgyer, ARS, Secretary
How to Reduce Costs of Handling Grain
Leo E. Holman, Transportation and Facilities Branch, AMS, USDA
Discussion - E. W. Siedschlag, South Carolina

Livestock

Matt Jennings, Tennessee, Chairman
George Turner, AMS, Secretary
How to Reduce Costs of Handling Livestock
George Turner, Transportation and Facilities Branch, AMS, USDA
Discussion Leaders:
Amos Meyer, Maryland
C. R. Underwood, West Virginia

7:00 p.m. Dinner Meeting. Dave L. Pearce, Commissioner, Louisiana Department of Agriculture, Chairman

Our Responsibility
Charles Figy, Assistant to the Secretary of Agriculture, USDA

Entertainment - Donald E. Wilkinson, Wisconsin

Third Day

HOW TO EXPAND OUTLETS FOR FARM PRODUCTS

9:00 a.m. General Session. C. J. Carey, Deputy Director, California Department of Agriculture, Chairman

Need for and Methods of Expanding Market Outlets
G. Chester Freeman, Chief, Food Trades Branch, AMS, USDA

9:45 a.m. - 12:30 p.m. Meetings of Conference Groups on Expanding Outlets
How to expand market outlets?

Dairy

Donald E. Wilkinson, Wisconsin, Chairman
Louis Herrmann, AMS, Secretary
Discussion Leaders:
W. C. McMinimee, Washington
Cleve Johnson, Minnesota

Third Day

Poultry & Eggs

William P. Charron, Maine, Chairman
Hermon Miller, AMS, Secretary
Discussion Leaders:
Tom Fox, Oklahoma
Merrill Werts, Kansas

Fruits & Vegetables

C. J. Carey, California, Chairman
Arthur E. Browne, AMS, Secretary
Discussion Leaders:
George Chick, Maine
Harold Carter, Colorado

Cotton & Tobacco

W. P. Hedrick, North Carolina, Chairman
Marshall J. Goss, ARS, Secretary
Discussion Leaders:
Fred Johnson, North Carolina
C. E. Campbell, West Virginia

Grain

John Winfield, North Carolina, Chairman
Roy Allgyer, ARS, Secretary
Discussion Leaders:
John Mahoney, Maryland
E. W. Siedschlag, South Carolina

Livestock

Matt Jennings, Tennessee, Chairman
George Turner, AMS, Secretary
Discussion Leaders:
C. R. Underwood, West Virginia
C. P. McClaugherty, Virginia

RECOMMENDATIONS FOR ACTION

1:30 p.m. Meetings of Conference Groups to Review Reports

3:30 p.m. General Session. L. G. Foster, AMS, USDA, Chairman

Third Day

Presentation of Reports of Conference Groups

Dairy
Poultry & Eggs
Fruits & Vegetables
Cotton & Tobacco
Grain
Livestock

4:30 p.m. **Summary of the Conference**

Roy W. Lennartson, Deputy Administrator for Marketing Services, AMS, USDA

PLANS FOR THE WORKSHOP

William C. Crow, Acting Liaison Officer
State Departments of Agriculture
AMS, USDA

At the Louisville Workshop last year a balanced marketing service program for each of several commodity groups was developed. Since that workshop, funds available for the cooperative Federal-State marketing service work have increased nearly 60 percent. More States have come into the program. Many States have expanded their activities. The Advisory Committees that have reviewed the work being done have recommended further expansion of the program. The Federal funds for the work have been earmarked in the appropriation bill, so the program must stand on its own feet. Its future depends upon the results of the work. In order to justify its continuance or expansion the program must make real contributions to the improvement of the marketing system.

The theme of this workshop is "How to Improve Marketing Service Programs." The only reason for holding it is to learn how to do a better job. The four subjects to be studied are the ones in which the largest number of States are interested. They are: (1) How to improve market information, (2) how to maintain the quality of products as they move through the marketing system, (3) how to reduce the costs of marketing, and (4) how to expand outlets for farm products. We shall devote half a day to each subject. The study of each subject will open with a talk at a general session by an authority in the field. Following this talk the conference will break up into six groups each of which will study the problem as it applies to one commodity group. These six groups deal with dairy products, poultry and eggs, fruits and vegetables, cotton and tobacco, grain, and livestock.

Each working group should catalog and evaluate the ways of doing the job, decide what the best ways of accomplishing the purpose are, and prepare a report showing what should be done and the best ways of doing it. These reports should be prepared at the end of each half-day session. Each working group has a State man as chairman and a representative of the U. S. Department of Agriculture as secretary.

Each person attending the workshop should join the commodity group of most concern to his State. Where more than one person from a State is attending the conference it is suggested that the delegation not all attend the same working group but divide among the groups of most concern to their State in order that the total knowledge obtained at the workshop may be maximized. When a person joins a commodity working group he should stay in it until the discussion of the problem has been completed and the report written. When the next problem is studied he may change to another commodity working group if he so desires.

Other activities of the workshop will be confined to evening meetings when Mr. O. V. Wells, Administrator of the Agricultural Marketing Service, will discuss the place of marketing services in a marketing program; Mr. L. Y. Ballentine, Chairman of the Advisory Committee on Cooperative Work under the Agricultural Marketing Act with State Departments of Agriculture, will talk on the need for greater coordination of marketing research, service and educational programs in the States; and Mr. Charles Figy, Assistant to the Secretary of Agriculture, will talk on "Our Responsibility" following a dinner on Wednesday evening. After Mr. Figy's talk there will be an entertainment period.

On the last afternoon of the workshop each commodity working group will review and approve its four reports. At the closing general session these reports will be presented to the entire conference. Following these presentations Mr. Roy W. Lennartson, Deputy Administrator for Marketing Services of the Agricultural Marketing Service, will summarize the results of the conference.

There are only two ways to improve your marketing service program: By doing better the work you have under way, and by getting a better-balanced program. We must grow in our ability to perform and in the results we get. If we are in a rut, we must get out of it. From this workshop with its speeches, its opportunity to exchange views and learn from the experience of other States, and its pooling of ideas on the best ways of doing the job, you should be able to step up the quality of the work in your State and turn out more tangible and useful results. Only if this is accomplished, will this National Marketing Service Workshop be a success.

MARKETING SERVICES IN A MARKETING PROGRAM

O. V. Wells, Administrator,
Agricultural Marketing Service, USDA

The only point which I want to stress is the importance of marketing services within any effective and comprehensive marketing program for American farm products. The most of you work with or administer marketing services activities of one kind or another. And yet each of you knows that it is easy enough for such activities to become sufficiently routinized for us to forget that the marketing job is a continuous one -- that service activities have to be performed over and over not only this day, this week, this month, this year but also next year and the year after. It is at the marketing service level where much of our marketing research and market improvement must actually pay for itself.

I am certainly gratified at the representative nature of this group and the enthusiasm with which you are apparently going to work here for the next two days and nights. I am sure that Mr. Crow has outlined to you what he considers the broad essentials of a successful marketing service program -- collecting and disseminating useful marketing information, showing marketing agencies how to maintain the quality of farm and food products as they move through the marketing system, demonstrating ways of holding down or reducing the costs of handling products at each step in the marketing channel, and expanding outlets for farm products. These are the main steps: the problem of course is how to get them done in detail.

NEED FOR GREATER COORDINATION OF MARKETING RESEARCH, SERVICE, AND EDUCATIONAL PROGRAMS IN THE STATES

L. Y. Ballentine, Chairman, Advisory Committee on
Cooperative Work under the Agricultural Marketing
Act with State Departments of Agriculture

It is a privilege to have the opportunity to discuss the need for greater coordination in marketing research, service, and educational programs in the States. You will note that I am to talk on greater coordination of these three phases of the marketing program in the States. I would suggest to you, however, that this need is neither limited to the States nor to the agencies already mentioned. It applies to all agencies of government and at all levels--local, State, and national.

At the risk of being considered critical--constructively so, I hope--I express the belief that some of our lack of coordination on the lower levels of government had its conception in and has been encouraged by Washington. I hasten to say that I am convinced that this condition has been recognized by the proper persons in the United States Department of Agriculture and that forceful remedial action is under way not only to correct this evil but to spearhead a program built on the great overall need for marketing and in full recognition of the interdependence of all agencies serving this ever-expanding need. I believe I can interpret in the language and the action of those in Washington with whom I work that, from now on, coordination will be the watchword of the marketing program.

But before I go further, I desire to point up very briefly the great and growing need for more and better work to solve marketing problems, and to further indicate, if this job is to be done satisfactorily and creditably, it will require the combined resources of all our agencies as well as the cooperation of industry and other groups interested in removing the bottleneck now hazarding our agricultural development.

We have, for so long, pointed with pride to our increased production of agricultural commodities and the improvements found on American farms that we are loathe to face up to the facts of present day agriculture. We are slow to accept the full meaning of lower incomes for our farm people; but this we must accept--

That agriculture's take in the nation's economy has been trimmed during the last three years and it seems that this trimming process is expected to continue. Cash farm receipts in 1954, according to the October Outlook issue of U. S. D. A.'s "Demand and Price Situation," are estimated at 30.2 billion dollars, 4 percent under 1953. Farm production expenses declined slightly in 1954; however, realized net income of farm operators is expected to total 6 percent under 1953. This is the third year in a row of declines in net income to farm operators. The parity ratio during the third quarter of this year averaged 88 as compared with 93 a year earlier. In simple terms, agriculture's compensation in our complicated economy is 12 percent under what the country's leading economic analysts call a fair share.

That the farmer's share of the consumer dollar has dropped from 54¢ in 1951 to less than 44¢ in 1954.

That agriculture cannot employ the new tools of agricultural production unless it can remain strong and healthy financially. Herein lies our challenge.

I am confident no one knows to what extent an improved marketing program could help, but I am equally confident that everyone familiar with the subject will agree that a large portion of our agricultural problems are to be found in the area of marketing, and all these problems are multiplying and becoming more significant day after day.

Just as volume production of automobiles and trucks have jammed the roads and highways of our nation, creating new traffic problems daily, increased and improved transportation and communication needed to satisfy the wants and needs of a hearty and thrifty people, who no longer are content with the simple foods and fibers necessary for a bare existence, have multiplied and amplified our marketing needs.

The solution is not simple--as someone has pointed out earlier in this workshop program. There is no single gigantic problem which we can attack as such, but it is rather a series of many and varied small problems differing as to location, commodities, etc., each and all of which must be resolved if the job is to be mastered.

In the solution of many of these problems, research agencies are the first to be called; their services are needed to first find the answers. But results on research are of little consequence to the marketing program unless the findings are carried to the persons who will use them. So the service and educational agencies should take over at this point and get the research results applied and best operating policies adopted with a minimum of delay.

If each of the three agencies--research, service, and education--have their individual functions, then why so much talk about coordination? There are many good and sufficient reasons, but in the interest of time, I will mention only a few. I believe we have already accepted the statement that there are literally thousands of small problems besetting our marketing system.

I am sure we will all readily agree that many of these small problems are very closely related and that an understanding and an appreciation of the importance of one is necessary for the proper treatment of the other. Also, while there are some that may be treated by one agency, there are many so involved as to require the joint efforts of two or more of the agencies.

There is another significant element in coordinating the work of the three agencies--public relations. It is much easier to sell the true worth of the program to the marketing agencies, the public, and the legislature if all the agencies are in agreement and have a common purpose--working for the overall program rather than for the segment in which that particular agency may be directly interested. We need to realize more completely that we have under Title II of the Research and Marketing Act of 1946 an excellent chart with which to work. Title II of the Act recognized that the State Departments of Agriculture have the responsibility for developing and carrying on educational and demonstrational programs in marketing with growers, handlers, and consumers. The Act points out that the Experiment Stations have the responsibility for research in all phases of marketing work. This is defined further by pointing out that the Experiment Station should discover facts and establish principles that can be used by Extension and the State Departments of Agriculture in improving the health, increasing the wealth, and, thereby, make it possible for our people to have a richer and more satisfying life.

The Act recognizes that each of the agencies are inter-dependent and must work closely together, and cooperative and regular exchange of information is necessary because the areas of work merge at several points. These are sometimes called "middle zones."

As we study coordination and cooperation as applied to marketing, don't forget that State people can get a great deal of information needed on their problems from various agencies within the United States Department of Agriculture. Help can be had in carrying on some activities from several divisions and branches of the United States Department of Agriculture, particularly is this true in A.M.S. If you need help on a matched-fund project, ask the Liaison Officer with State Departments in the A.M.S. to help you or to tell you where you may get help.

It has been said on numerous occasions that if there can be a meeting of the minds of the administrators on mutual problems, we need have no fear but what the privates, or rank and file workers, would get together and move toward common objectives. With this in mind, I would like to take enough of your time to name the advisory committees of Research, Extension, and Departments of Agriculture which are vitally interested in cooperation and coordination and to report the recent joint recommendations made by these committees at a meeting at Madison, Wis., on October 8-9. This was the second joint meeting of these three committees; this, in itself, indicates the interests of these committees in promoting the theme of my talk. So that you may know the kind of people making up these committees, I shall give you their names and titles:

The Experiment Station Committee is made up of:

P. S. Eckert, Dean and Director, Arizona Experiment Station
Helen G. Canoyer, Dean, College of Home Economics, Agr. Exp. Station, Cornell
R. K. Froker, Dean and Director, Wisconsin Experiment Station
G. F. Dow, Associate Director, Maine Experiment Station
F. J. Welch, Dean and Director, Kentucky Experiment Station

The State Extension Service Committee is made up of:

L. A. Bevan, Director, New Hampshire Extension Service
A. W. Jones, Marketing Specialist, Alabama Extension Service
D. B. Varner, Asst. Dean and Director, Michigan Extension Service
Eva L. Goble, State Extension Leader of Home Demonstration Work, Purdue
P. E. Nystrom, Head, Department of Agricultural Economics and Marketing, University of Maryland
G. A. Carpenter, Asst. Director of Extension Service, Utah State College

Committee representing State Departments of Agriculture and Bureaus of Markets:

George H. Chick, Chief, Division of Markets, Maine Dept. of Agric.
C. J. Carey, Chief of Division of Markets, California Dept. of Agric.
Roy Freeland, Secretary, Kansas State Board of Agriculture
D. N. McDowell, Director, Wisconsin State Dept. of Agriculture
and myself

The three committees, meeting in joint session in Madison in early October of this year, recommended the following procedures to achieve coordination between research, extension, and State Departments:

(1) Extension and research proposals should be coordinated at the land grant college level; and State Departments, Extension Services, and Experiment Stations should provide one another with copies of project proposals.

(2) When the respective Federal agencies receive project proposals from a State that have not been sent to the other agencies in the State, the Federal agency shall be responsible for seeing that the other agencies in the State receive a copy for their information.

(3) Representatives from the other State agency or agencies should be invited to participate in the planning and outlining of the project.

(4) There should be periodic conferences of the workers directly responsible for the project with these representatives to review the progress made on the project and suggest any changes that might seem desirable.

(5) These representatives should present to the workers, directly responsible for the project, problems encountered by them or their colleagues and the reactions of people in the field that indicate the need for additional or different work, or the need for changes in the present work.

(6) It should be the responsibility of the head of the State agency submitting such a project to the U. S. Department of Agriculture to submit evidence that the project has been discussed with the other agency, or agencies, involved and has their concurrence. The responsible department agency will be expected to examine them for integration. If there is reason to believe that another agency or agencies have a direct and vital interest in the project, it should not be approved until there is evidence of the concurrence of the other agency or agencies.

(7) Each State agency in reporting on work done and results achieved should indicate the cooperative nature of the work, its relationship to other work and the part of other agencies in carrying out the program.

The three committees recommended that there be established in each State a mechanism for joint planning and cooperation. This can be informal or in the nature of an organized committee or council on which each of the three agencies is represented by a person in whom much of the responsibility for program approval is placed. It is also the thinking of the three committees that any other agency directly affected by the program of work might serve in an advisory capacity and, therefore, contribute to the success of the marketing program.

This set of recommendations is an attempt to answer the question of how to get the marketing job done. I might add that we have had in North Carolina for the last few years what we call commodity groups that meet periodically and on call to take up problems that might arise of one type or another or so-called continuing problems. We have found work of these committees to be very effective. The men have had an opportunity to meet each other in an informal manner to discuss mutual problems and to plan programs to solve these problems. This business of coordinating marketing research, service, and educational programs is a continuous sort of a thing that can be done in the States, and from the Federal standpoint, if we as individuals recognize the importance of public relation work and something of the philosophy of the man who recommended that we be our brother's keeper.

Illustration

A plan for studies of cotton production factors as related to fiber laboratory test results: N. C. Experiment Station, N. C. Extension Service, and N. C. Department of Agriculture cooperating.

The Problem or Need

Cotton fiber laboratory test results are used by cotton manufacturers extensively enough to make fiber properties a marketing factor. The micronaire or fineness test is particularly important in blending cotton in the opening rooms of the yarn manufacturers. Most mills making high quality yarns specify the micronaire range in their purchases of raw cotton. Apparently, it is only a matter of time before cotton growers will be confronted with the problem of producing cotton with specific fiber properties.

Test results accumulated by the Department's fiber testing laboratory during the past four marketing seasons indicate a wide range of properties, on both local and area bases, while at the same time showing sufficient consistencies area-wise to place some counties in an unfavorable position in the marketing of their cotton while others enjoy advantages. Unquestionably, it will require a vast amount of research and study to determine the basic causes of these variations.

A second, or parallel, problem is the evaluation of fiber properties as a price factor. This new price factor will be a handicap rather than an incentive for quality improvement unless the cotton growers are able, through production practices, to exercise some control over the fiber properties.

A special feature of these problems is that they cannot be resolved to any degree of accuracy without extensive research running into thousands of replications. Fortunately, the initiation of such a research project should involve little more than the statistical analysis and interpretation of production data and laboratory test results to isolate production factors for further investigation. The following is a suggested plan whereby existing activities of the Experiment Station, the Extension Service, and the Department of Agriculture may be coordinated and directed as a joint project.

Schedule of Operation

Cooperating Producers.--This plan is predicated on the voluntary cooperation of two or more farmers in the vicinity of the ginning and marketing points from which the State Department of Agriculture receives cotton samples for laboratory testing. The cooperating growers will keep production records to be specified by the Experiment Station.

The Experiment Station.--The Experiment Station will: (1) Develop the schedule of records to be kept by cooperative producers; (2) collaborate with the Department of Agriculture in devising a system of test data tabulation to the best advantage of this project; and (3) make a statistical analysis of production and test data.

The Extension Service.--The Extension Service, in cooperation with the Experiment Station, will: (1) Conduct the field work indicated for this project; (2) exercise general supervision of this project at the farm level; and (3) cooperate with the Department of Agriculture in selecting cooperating ginners.

Department of Agriculture.--The State Department of Agriculture, in collaboration with the other agencies, will: (1) Select 15 or more ginning and marketing points from which to receive samples for the Department's test results releases; (2) give priority to cottons from cooperating growers; (3) tabulate test data in whatever form is most convenient for the Experiment Station; and (4) arrange with cooperating ginners for the forwarding of samples to the laboratory.

Now, I would like to say that reports from the National Marketing Workshop which was held this year at Cornell University, in which the three agencies had the responsibility for organizing, are exceptionally good.

Based on the recent activities of the three agencies, we have reason to be optimistic. Let us strengthen the framework of the organization that we now have for coordinating marketing programs and adapt it to the changing conditions.

In closing, I leave with you this personal observation. There is nothing so complicated or impossible about coordination or people working purposefully together. It simply requires an intelligent understanding, a willingness, and a desire to work together. Don't leave the first move to the other fellow or other agency.

OUR RESPONSIBILITY

Charles Figy
Assistant to the Secretary of Agriculture, USDA

When Mr. Crow called me to appear on this program, naturally I was pleased for several reasons. First, because Secretary Benson has demonstrated that he is very much interested in improving and expanding markets. I am sure that your work will help to accomplish this end. Second, in accepting the invitation I knew it would give me a chance to meet many of my friends from the different States who are interested in the same thing that I am.

It was my privilege to serve on the first Advisory Committee on Cooperative Work with States under the Research and Marketing Act of 1946. In looking over these projects, I am sure that progress is being made and the projects have been improved over the ones that were first presented to our committee back in 1949.

Marketing is not a local or regional problem but affects the entire Nation. What we learn about marketing in one State or area should be made available to the other parts of the country. This I believe was the intent of the Congress when they passed the so-called Hope-Flannagan Act. If we were to study our local marketing problems and "hide our light under a bushel," there would have been no justification for Congress to appropriate Federal funds for this work.

Mr. Crow asked me for a subject and, in the absence of a better one, I told him I might use the title "Our Responsibility." One of our responsibilities and perhaps the most important is to find a home for what we produce or what the consumer will buy.

Up in my home State we have a town that celebrates Red Flannel Underwear Day. At one time they had a very thriving red flannel manufacturing business in that town. Of course, they do not make red flannel underwear any more. Why? Because the trade doesn't buy enough red flannels any more to make it pay. They did convert the factory over to the manufacture of other merchandise that the consumers would buy.

The old saying "The customer is always right" still prevails. For many years I have had some connection with dairy business. How well I remember the statement made by one leading dairy marketing official a good many years ago and that was "I want to get just as high a price for my milk as I can and still sell it." We cannot expect to produce milk or any other product very long in excess of what we can find a market for. To produce milk or any other farm product for the Government to take and to store, can in any event, be little more than a temporary medium.

A short time ago I received a letter from one farmer stating that the automobile industry made 7 percent less cars last year and still made more net profit. Why did not they make 7 percent, 20 percent, or even 50 percent more cars than they previously did? It was because the trade would not take them, the market was not there. All automobile companies are coming out with new models. They are spending millions in redesigning and in retooling their shops for new models. Why don't they make the same model cars that they made last year or even 10 years ago--they all had 4 wheels the same as now. They were all made out of about the same kind of metal and about the same rubber and other materials.

We are facing a discriminating public and a changing consumer demand. We must find ways to meet that demand. This country was made great by initiative and foresight. We are going to continue along that line. One segment of our economy cannot stand still while the rest of it advances. Farming and marketing must advance with the rest of our economy.

We cannot continue to produce red flannels, obsolete automobiles, high bacteria milk, overfat hogs, chickens with long necks, and hollow potatoes. We can no longer sell milk to the consumer out of cans. We would not expect to sell crackers out of the barrel as we once did. A big majority of our consumers today will not buy potatoes in 100-pound bags. They will not buy chickens with the head and feathers on. Someone along the line must improve the product as well as the packaging to meet the consumer demand.

Through our market service programs we must find out what the consumer wants, how she wants it, and provide the service to the producers and handlers to see that she gets these products the way she wants them.

We are ahead of nearly every country in the world. It is "OUR RESPONSIBILITY TO KEEP IT THAT WAY." In order to accomplish this, it will take cooperation between representatives of all branches of the industry. The Research and Marketing Act sets up the machinery and gives us that responsibility.

The Act provides for several advisory committees. The U. S. Department of Agriculture staff has worked out several successful workshops. We have had the Executive Committee of the National Association of Commissioners, Secretaries, and Directors of Agriculture into Washington for conferences with the U. S. Department of Agriculture staff and we expect to have them in again next month. Our responsibility is to build closer cooperation between all agencies of the U. S. Department of Agriculture and the States. To eliminate waste and to improve our efficiency, to expand and improve our markets in order that we can have a prosperous and free agriculture.

HOW TO IMPROVE MARKET INFORMATION

WHAT RESEARCH, SERVICE, AND EDUCATION IS NEEDED TO IMPROVE MARKET INFORMATION SERVICES

Barnard Joy
Assistant to Administrator for Advisory Committee Operations
Agricultural Research Service, U.S.D.A.

There is no more effective way of opening my remarks on market information, than quoting from Secretary Benson's foreword in the 1954 Agricultural Yearbook on Marketing. Incidentally, this yearbook gives us a new source of compiled information on marketing that should be very valuable to everyone working in this field.

Secretary Benson says: "I write these words in a time of uncertainty... Yet there is a guiding principle. Adam Smith, a Scottish political economist of the eighteenth century, pointed out that the individual producers and businessmen, acting on their own self-interest as they make their countless separate decisions to buy or sell or hold or ship, are led as if by an invisible hand to benefit the general public. The principle is one of beneficial competition. When all buyers and sellers have accurate information, the process of competition can help the farmer and the consumer.

"In practice, however, competition often is imperfect and our factual information is far from complete. Adjustments therefore often are slow, and Government--local, State, and Federal--is asked to help, to speed things up, to supplement individual efforts with broader measures. All need to work together to improve the marketing process."

Facts-Fast

As we turn to the section of the Yearbook devoted to market information we find an interesting introduction. I quote from page 170: "The network of telephone, telegraph, and teletype communications gets California lettuce and citrus, Louisiana strawberries, and Florida truck crops on their way at the best moment for shipment and makes certain their proper distribution to hundreds of wholesale buyers in just the amounts they stand ready to handle. Each person in the market needs information on some questions if he is to make orderly marketing plans. To the extent that the information is available and systems of communications are properly used to get the information where and when it is needed, the flow of supplies from farm to distant market can be made efficient. To the extent that we do not get the reliable information, or do not make the best use of instruments of communications to distribute it, we risk delay, waste, and other inefficiencies...."

Some authorities define marketing as buying and selling. Some of those engaged in buying and selling seek market information so as to gain an advantage over the seller when they are buying and to gain an advantage over the buyer when they are selling. The fact that producers and consumers are frequently poorly informed about the market on which they sell and buy probably accounts for the fact that the term "middleman" has a derogatory connotation to some of them.

The constructive approach to this problem is for all sellers and buyers, (producers, market agents, and consumers) to have the information they need to make sound decisions.

Supplying market information was recognized as a constructive and proper governmental function when the Department of Agriculture was first established in 1862. A crop and livestock reporting service was one of its first activities. In fact there was considerable demand for such a service 25 years before the Department was established.

The amount of market information needed today is far greater than that needed in 1862. However, the basic questions regarding the effectiveness of a public market information service are the same as they were 90 years ago. These questions are:

1. Does it include the information needed by all those engaged in buying and selling?
2. Is the information effectively communicated to all who need it?

The first step in answering question one is to define the phrase "all those engaged in buying and selling." For farm products it obviously includes the farmers who produce the commodity. It also includes those who, for a time, as processors, brokers, wholesalers and retailers, hold title to the commodity but do not consume it. The final buyer is the consumer. In seeking an answer to question one, it is helpful to divide it into three parts: (a) Does the service include the information needed by the producer to plan his production and to sell effectively? (b) Does the service include the information needed by the market agents who hold title to the commodity before it reaches the consumer? and (c) Does the service include the information needed by the consumer to buy effectively?

Marketing Workshop on Market Information

At the recent Marketing Workshop on Market Information held at Cornell University, Work Group I outlined the major types of market information needed by these three groups. Obtaining and disseminating this information involves research and extension work as well as service work. However, to provide a framework for the six work groups at this conference, I want to quote the pertinent portions of the report of Work Group I at Cornell: "Producers live in a world of constantly changing prices. Basically, then, the need is for market information that will enable them to form the most reliable expectations regarding market prospects for production alternatives open to them; to modify their expectations through the production period; and to make the most advantageous decisions on where, when, and in what form to sell.

"The market information needed during the planning phase of production will include:

(1) The prevailing market price of products.
(2) Estimated future prices of products and the reliability of such forecasts.
(3) Prices of production factors and production functions.
(4) Supply and price prospects of competing products.

"During the intermediate stage when production is in process, the kind of information required must provide the basis for any adjustments that can be made by the producer.

"During the final stage when the alternative decisions are to sell or to hold, the need shifts to more localized information such as:

(1) Prices in alternative markets or outlets.
(2) Costs of shipping or transfer to markets.
(3) Estimated future price changes for storables.
(4) The 'best time' alternative for selling in particular markets.

Marketing Agencies

"The probability of price change is of primary interest to handlers and processors of agricultural products. The major decisions include what commodity to buy--by grade, variety or pack--and what to sell. They must estimate how much to buy and where, and when and where to sell, and finally what price to pay and what price to ask. The type of information required to make these decisions is similar to that required by producers during the intermediate and final stage. A broad classification can be made between storable and nonstorable products. Perishable product information will include:

(1) Production estimates continued through the growing season.
(2) Changes in price.
(3) Production and price estimates of competitive products.
(4) Spot prices for alternative markets.

"For products that can be stored for longer periods of time, market information will include in addition:

(1) Estimated demand and supply relationships during the immediate future.
(2) Expected price trends prior to the new supply.
(3) Stocks and rates of disappearance at each level of distribution of the product concerned and competing products.

Consumers

"Market news for consumers should be adequate enough to allow rational decisions of when, where, and what to buy in order to maximize satisfactions and to make the most efficient use of money spent. This will include:

(1) Spot prices by products, grades, class, and location.
(2) Information on seasonal production patterns, storage stocks, and expected price changes of individual products.
(3) Price trends in general.
(4) Price relationships and relative price changes between substitute products. Information on nutrient value, and other technical use aspects supplement quantity and price estimates in a way analogous with information on producers' technical production functions."

At Cornell, Work Group II reported that there are serious gaps in existing basic information for producers. Their report includes the following statements: "For instance, there is no federal market news service on seed crops, forest products, flowers, or nursery crops. Data on truck and aircraft movement of agricultural products are inadequate. More information on tree numbers and potential fruit and nut production is needed. There are increasing needs for market information at retail and grower levels as an addition to terminal market news. These and other gaps should be closed."

Cornell Work Group III concerned itself with Information to Assist Producers in Determining When and Where to Sell. One of the points in the summary of the report was "Information needed to assist producers in selecting the best market is very limited. If these producers are to be helped, additional information on specific markets is needed."

For example this report points out that more information is needed on the form of product desired at various markets. Should it be in bulk or packaged--and if packaged, in what type and size of package? Producers also need information on the costs involved at alternative markets including transportation, quality change, shrinkage, and selling costs.

Information Requirements for Advance Pricing

Another important gap in information needed by producers was the concern of Group IV that dealt with Information Requirements for Advance Pricing. This Group pointed out that special kinds of information and analyses are needed when contract prices are agreed upon before planting a crop to be canned or frozen. Special information needs are also involved when entering into agreements on a formula for pricing milk "which depend upon conditions at the time of delivery, but not necessarily known at the time the formula is adopted."

Cornell Work Groups V and VI dealt with deficiencies in marketing information at various points in the marketing channel. Group V which dealt with assembly markets pointed out the decentralization of livestock markets. They made three suggestions in this area:

> "1. Providing more detailed market reports by grades on prices paid and volume purchased at the farm, at the auction, and at local assembly markets.
> 2. Intensification of present educational programs designed to acquaint producers with grading procedures and market terminology.
> 3. Encouraging the grading of livestock prior to sale."

Work Group VI made many suggestions for improving terminal market information. The background for one group of suggestions was reported as follows:

> "Terminal markets occupy the predominant position in our forklore of agricultural marketing....It is only natural that marketing information should have first originated in such centers. In recent decades the structure of agriculture and population in the United States have changed drastically...These (changes) have influenced the flow of products from farmer to consumer, the funneling of market forces and possibly the nature and need for terminal market information...
>
> "Theoretically, the level of trading at which price information is collected should be where the forces of supply and demand are mirrored most intensely. In the past, this was the point of wholesale selling. The knowledge that a large proportion of terminal market receipts now bypass this level has caused many individuals to ask whether the wholesale level is now representative. Furthermore, the presence of only a few traders at this level gives rise to the charge that the reported information can be manipulated....
>
> "Despite the decline in the flow of some commodities through the hands of wholesalers in terminal markets, many groups in producing areas and in other markets use terminal market prices as bases for concluding transactions.
>
> "The question was also raised as to what group or groups are best served, unintentionally or otherwise, by terminal market information. This involved the question of whether or not the selection of one level of trading in preference to other levels for collecting and reporting information might give one or two groups a greater advantage....The relative understanding of grades and standards, basis of sale, and the eventual acceptance of price leadership of the reported prices by outside groups are major factors."

Work Group VII at Cornell started their report with the statement "Market information to retailers has received less attention than any of the other levels of the marketing structure." I will cite just one item from the many excellent improvements they recommend. It is "Grade standards that more nearly meet the consumer's acceptance." It is pointed out that "U. S. grade standards for many commodities were developed for the wholesale trade and have little or no meaning to retailers."

Work Group XI at Cornell dealt with the Consumer Education program carried on by the Extension Service. This Group emphasized the importance to them of the various types of market information available on supplies and prices. They also pointed out that there are many gaps in the information and that there is a big job involved in translating it into forms that are useful to consumers.

Work Groups VIII, XI, and X at Cornell dealt with subjects that this conference will consider Thursday, under the topic "Expanding Market Outlets."

Up to this point, my citations have dealt principally with suggestions that are pertinent to Question 1: "Does our market information services include the information needed by all those who are engaged in buying and selling?"

Let us turn now to the second question, "Is the information effectively communicated to all who need it?" Again this question needs to be broken down - is available information being effectively communicated (a) to producers, (b) to market agents, and (c) to consumers.

At Cornell a general session presentation was made by Stanley Andrews on the topic, "What Information Do Farmers Want and Use?" Mr. Andrews, a former farmer, rural newspaper man, and government official is now Executive Director of the National Project in Agricultural Communications.

In summarizing seven studies, Mr. Andrews made seven points. Four of the seven dealt with ineffective communication. They were:

1. "Most farmers were unable to translate the central market quotations into what their product should bring locally. Since a majority of all farm products is sold in a local market, localized quotations were considered vital to the practical use of the central news by the producer. There was little real understanding of market differentials based on location.

2. "Terms used in describing market fluctuations meant very little to producers. The words 'light and heavy' to describe runs, 'prices up 25 cents or down a certain figure,' meant very little unless some figure or base was quoted as the starting point. Farmers do not have time to look up a newspaper or put down yesterday's or last week's quotations.

The very nomenclature used to describe a given situation in a market, while perhaps meaningful to the commercial market man watching the market all of the time, meant very little to the average producers.

3. "Publishing or broadcasting 'future quotations' was of little use to producers -- many did not even understand the term.

4. "Space given and type used in newspapers, and the listless and uninspired reading of the market reports on radio and television, left the listener with the impression that this was some routine task of little importance that had to be performed; hence, they considered such material of little value also.

"In spite of the above general viewpoints gleaned from these seven surveys, Neilson's studies on what farmers want from their farm radio programs ranks general, national and State news first; market reports second; and weather third. Talks about farm problems and how to farm ranked down to five."

Andrews told of a personal experience which is worth repetition. "For several years in the early thirties I operated a radio station in Little Rock, Arkansas. In an agricultural State it was natural that a lot of our programs were beamed at the farm family. One of our features was the daily cotton, oilseed, feed, livestock, and poultry market reports. We had then no central markets in Arkansas. The New Orleans cotton futures, the St. Louis livestock and poultry market, and the Memphis oilseed market meant very little to the chap in Conway, Arkansas, who wanted to sell a bale of cotton or livestock or poultry. In the beginning, I had no way of gathering livestock markets information from the larger State auctions where most livestock was sold, and I had less luck with the cotton market. Since I could not tell them what such products were selling for at a given point in Arkansas on a given day, by the simple application of trade and market or location differentials to principal market points in Arkansas, I was able to state pretty accurately what a bale of cotton or a steer of a given grade or a case of eggs should be worth at the principal concentration points in Arkansas. It took a little more time, but it was not long until my station was one of the most listened to stations in the State."

Andrews concluded his talk with the following statement: "No country in the world spends as much money and effort as the United States on gathering tomes of information and data for what we hope will be of service to the farmer. Too often we go through all of this -- the gathering, the tabulation, the telegraph tolls, and clacking and pushing of machines -- only to miss the mark with the very person we are hoping to serve -- the producer."

One of the most important results of the Cornell Workshop was the increasing realization that improvement of market information services is a team job--it involves research, service and extension effort.

As indicated in the title of this presentation, I have covered problems to which all three services must direct their efforts. I have made no attempt to indicate what each of the three should do or on what basis they should cooperate. As you assemble in your six commodity Work Groups you will need to give consideration not only to how market information services can be improved but also to the type of working relationships that are needed to get the various jobs done.

As a final thought I wish to reemphasize two basic points: One, the only justification for collecting and analyzing market data is because producers, market agents, and/or consumers need the information to perform their functions effectively; two, the job is incomplete until the information is effectively communicated to those who need it.

RECOMMENDATIONS BY THE SIX CONFERENCE GROUPS FOR IMPROVING MARKET INFORMATION

I. Dairy Products

O. E. Krause, Wisconsin, Chairman
Louis Herrmann, AMS, USDA, Secretary

The 1953 National Marketing Service Workshop set out three classes of market data for which further collection and analysis are needed: Data on (1) utilization of milk, (2) prices of milk, and (3) types and sizes of containers and channels of sale for packaged fluid milk and other dairy products. In addition to these, the discussion in the present session dealt with improving the reliability of market prices used in pricing surplus milk, data on intermarket movements of milk, hay quality, sources of nutrients, and prices received by plants for butter and cheese. It was emphasized that much of the new data, as well as the basic production information, is needed on a local area basis--that Statewide data are inadequate for some vital marketing decisions.

Methods of collecting the data vary according to the purpose to be served--from volunteer reporters assembling information for a three-times-a-week report of prices received by farmers, being carried on in Washington, to annual and special surveys carried on as part of the regular USDA Agricultural Estimates programs in many States. In some instances, the operation of regulatory programs yields the kind of information needed, but too frequently there is insufficient provision for summarizing and publishing the data.

Regular reports are distributed to mailing lists which include: plants, firms, or individuals who supplied the data; producers; milk dealers; plant operators; cooperatives; public officials; vocational agriculture teachers; extension workers; and others. This is the principal means of getting marketing information to those who can use it. Newspapers, radio, and television are useful media, though less suited to routine publication of statistical data than to other types of market information. Much market information cannot be readily applied by producers and others to the solution of their problems without analysis and interpretation, and the collaboration of research and extension agencies with the statistical and market news services is essential. The usefulness and effectiveness of published information can be increased by presenting it in attractive format, with free use of illustrations and text to enliven statistical material.

Special studies by the service agencies and marketing and statistical research people are needed before some of the information projects can be established satisfactorily; for example, reporting prices of butter and cheese, f.o.b. the creamery or cheese factory, involves many difficult problems.

II. Poultry and Eggs

J. A. Ewing, Illinois, Chairman
Hermon Miller, AMS, Secretary

A. Identification of marketing problems.

Consideration of the market information available revolves around two areas: First, for the United States, as a whole; and second, for local areas. After a careful review of the various statistical reports for the important poultry products--i.e., eggs, commercial broilers, and turkeys--it was agreed that, nationally, about all the information that might be useful to the industry at the various points of production and marketing is available. However, there should be constant review of all programs: to keep them up-to-date; to improve on procedures used in reporting; to reflect the volume moving through the market; to correlate price information more closely with quality; to reflect changes in production patterns; etc.

The monthly crop reports provide information for the egg producer on the number of layers and potential layers by areas, information regarding the number of layers on hand at the beginning of the month with egg production rates and total egg production by States, areas, and U. S. totals. Commercial hatchery reports provide information on the number of chicks being raised for flock replacement purposes. Cold storage reports, egg products production reports, market news reports from production areas and terminal markets, and other reports provide rather complete statistical information on egg production and marketing.

The commercial broiler industry is provided with information on egg settings, chick placements, producer price information in the important producing areas, as well as reports on the price and volume of this commodity in important terminal markets. The recently inaugurated report on poultry slaughter also will provide useful information on the market movement of broilers. The turkey industry likewise is provided with information starting with the report on breeders tested and continuing through various forms of market information.

There are gaps in areas where information of a local nature would be useful in facilitating marketing from the local point of view. There are opportunities also to expand on programs to interpret the statistical information available, to apply it locally, and to disseminate the information more widely.

B. Ways to initiate and carry out expanded market information program.

Many States, under the authorities of the Agricultural Marketing Act have developed local market news programs; for example, Nebraska, Indiana, and Texas. Some of these reports have proven their usefulness to the point where they are now supported with regular Federal funds and State-appropriated funds.

An expansion of this activity in any of the various fields where gaps exist, so far as availability of useful market information is concerned, is to be recommended. State Department of Agriculture personnel should cooperate with educational agencies, Extension Service, and other agencies to interpret and apply statistical data to local conditions and to disseminate such information. Expanded use of all market information by the press and radio services is encouraged.

C. Technical assistance available.

Where such programs are to be undertaken, the respective Federal agencies, i.e., crop and livestock estimates personnel, market news service personnel, and others, should be called upon for assistance to coordinate such programs with existing programs of a similar nature. It should be kept in mind that if these programs are to be continued beyond the experimental stage they will be tied in with the regular service programs; for this reason, they should be developed cooperatively with the regular service personnel in the experimental stages.

III. Fruits and Vegetables

Davis Foreman, Illinois, Chairman
Arthur E. Browne, AMS, Secretary

To an increasing extent all elements concerned with the marketing of fruits and vegetables--growers, dealers, and consumers--are coming to realize that a better job of marketing can be done as more information is made generally available on supplies, prices, and movements. Market outlets can be broadened, marketings can be more orderly, and benefits to growers and consumers can be enhanced. However, many gaps still remain in the market information available on fruits and vegetables.

The Fruit and Vegetable Working Group concluded that the following types of information are among those needed and suggested ways to obtain them:

1. Periodic tree surveys for fruits and nuts, by age, variety, and production area, to assist in long-range market planning. Substantial reductions in acreages of such fruits as apples, peaches, and cherries

in some areas and for certain varieties and significant new plantings in others are profoundly affecting marketing plans today and in the years ahead.

a. Whenever feasible, actual censuses conducted by the State Statistician's Office in cooperation with other interested State agencies are desirable.
b. Mail surveys, followed by field investigations of unreported acreages, are an alternative.

2. Additional and more detailed production estimates, classified by types or varieties, such as for apples, peas, and peaches, are needed in many States.

3. Acreage and production estimates are needed for minor commercial fruit and vegetable crops, such as bush berries, okra, squash, and pumpkin, that are not now covered. Growers, dealers, and processors of these crops find it difficult to plan and operate intelligently owing to the lack of basic information.

4. Additional information is needed on storage stocks of such commodities as apples (by varieties), potatoes, sweet potatoes, and onions. In the case of some of these commodities, information is desired for periods other than those now reported, and for others none is now available.

5. Current information for potential buyers on volume and location of probable supplies of fruits and vegetables and indicated quality and maturity (or harvest dates) has proven a valuable means of expanding market outlets in several States.

a. Information is obtained from grower or shipper groups, inspectors, and county agents.
b. Dissemination is largely by mail to lists of potential buyers, such as truckers, wholesalers in terminal markets, chain stores, and other retail groups.

6. Current reports on grower and shipper prices are needed in many more producing areas and on additional fruits and vegetables.

a. In most cases these could be obtained by the market reporter in person or by phone as is customary.
b. In other cases, particularly if weekly or semi-weekly information is adequate, mail questionnaries may be feasible.

7. Expansion of current reporting of truck movement of fruits and vegetables is an absolute necessity.

a. Truck shipment data by destination, should be collected in as many areas as possible with the assistance of growers and shippers, the inspection service, plant quarantine stations, truck weighing stations, and other sources.

b. USDA, with the cooperation of State Departments of Agriculture where feasible, should collect truck arrival data from a sharply expanded number of major terminal markets.
c. Research agencies in the USDA and the States should be encouraged to devise additional methods for obtaining truck shipment data.

8. Retail market news on fruits and vegetables could be a valuable marketing aid to growers, dealers, and consumers. However, collection should be a State responsibility as the feasibility of such a service will depend primarily upon local interest and support.

IV. Cotton and Tobacco

D. A. McCandliss, Mississippi, Chairman
Marshall J. Goss, ARS, Secretary

Although much valuable marketing information regarding cotton is now available, State agencies under matched fund projects have an opportunity and a responsibility to develop marketing information programs which will better serve the producers at the local level. Marketing information should be furnished daily to producers with respect to prices being paid for the different grades and at various local selling points, representative of the area for which the coverage is intended. During the marketing season, the information obtained should be disseminated widely through the use of radio, television, press services, newspapers, and other available media. The basic information for the reports could be obtained daily by wire directly from ginners, county agents, Agricultural Stabilization Committee offices, or other local contacts.

There seems to be a growing demand for collecting and publishing information concerning fiber characteristics such as fineness and strength, but, since facilities for obtaining this information are not generally available, it is recommended that further studies be made to develop such information.

Tobacco

Adequate daily local market information on prices for the various grades of tobacco is necessary during the marketing season if growers are to take full advantage of changes in market situations. This information should also be disseminated widely through the use of all available informational media. The basic information for reports on tobacco is presently being obtained by the Market News Service and these data, by individual markets, should be disseminated for the benefit of producers. Since local information is of primary importance within the various States, it seems proper that these detailed local reports should be disseminated through State agencies.

V. Grain

R. P. Handy, West Virginia, Chairman
Roy Allgyer, ARS, Secretary

The working group on grain wishes to call attention to the following market information problems which need further study and action:

1. Production forecasts.

There is need for the production forecasts to be made more meaningful. In order to accomplish this we suggest that

a. Two additional forecasts should be made as of the middle of the month preceding and during harvest for each of the major grain crops, particularly for the commercial producing areas.
b. Where feasible, forecasts should be broken down into commercial and noncommercial areas within a State.
c. Effort should also be made to reduce the lag between the time this forecast information is collected and the time it reaches the producer.

In this connection it is recognized that this program would require additional funds and personnel at both the national and State levels.

2. Storage space available.

There is need for establishing a regular reporting system which will provide current information on available storage space both on and off the farm. This should be undertaken once each year nationally or more frequently in States where there are a number of crops to be stored and shortages of space. The work should be done by the agricultural statisticians, the Agricultural Stabilization Committee and other interested State agencies.

3. Varietal and quality information.

There is an increasing need for more varietal and quality information immediately preceding and during harvest. This applies particularly to wheat and soybeans. In order for such activity to be completely successful, official grades and standards must be revised to include milling and baking quality of wheat and oil content of soybeans. It is recognized that further research is necessary to develop simplified techniques for making these quality analyses.

4. Coordination of terminology.

There is need for establishment of uniformity in terminology, grades, and bases for reporting local market prices of grains so that prices for a given quality can be compared within areas of the same State or as between States. Perhaps in some markets, prices should be reported for additional grades. This coordination should be achieved through increased liaison between States. This may also involve a personnel training program designed to increase the proficiency of market reporters.

5. Costs of conditioning.

There is need for additional information on the costs involved in conditioning grain for storage and processing. This is desirable in order to assist in establishing a sounder basis for determining a more equitable price for grains of varying grades and conditions.

6. Examination of dissemination techniques.

There is a continuing need for an objective examination of our methods and techniques in the dissemination of all our market information including our crop reports, market news, and special studies. This may involve simplification and more effective presentation through increased use of radio and television. We cannot emphasize too strongly the necessity of making available immediately appropriate market information to all groups who may benefit from such information and service.

VI. Livestock

Sam Gilbert, Iowa, Chairman
George Turner, AMS, Secretary

Livestock producers have need for additional market information and a better understanding of market information programs to enable them to do a more effective job of planning and carrying out their livestock production and marketing operations. Some of the major deficiencies in the present market information programs, the kind of additional information needed, and suggestions as to the services which can be rendered by the States in improving market news and basic factual information are listed below.

1. Misunderstanding of market news information on prices and grades.

Frequently livestock producers overprice or underprice their livestock because they are not familiar with the various grades for which price quotations are given. The grading demonstration programs conducted by the Extension Service have been invaluable in educating livestock producers as to the various grades of livestock. It is urged that these programs be continued. In addition, it is suggested that the State Departments of Agriculture assist in correcting this problem by providing grading services in community livestock auctions in which the cooperation of sellers, buyers, and the auction management can be obtained.

2. The need for more localized market news information.

The decentrailization of livestock marketing, or the widespread development of community livestock auctions, necessitates the need for more localized market news information to guide producers in selling their livestock. Frequently, excellent information on prices and grades may be available for certain species marketed in one section of the State while information on the same species sold on markets in other sections might be practically nil. Again, the price information publicized sometimes is not representative of local situations or conditions.

It is suggested that State Departments of Agriculture develop a market news reporting system for localized community auctions and concentration yards to provide accurate and timely information on prices, grades, and volume. The information would be obtained by competent and qualified employees of the States and reported to their information units where it would be compiled and disseminated to producers and marketing agents by press, radio, etc.

3. The need for a buyer and seller guide for purebred livestock.

Producers of purebred livestock frequently encounter difficulty in finding satisfactory market outlets for breeding stock; buyers often have trouble in locating the kind and type of breeding animals they desire. This situation is particularly acute with the small producers.

It is suggested that the States develop a buyer and seller guide for purebred livestock for use within and outside their own State. Basic data needed for this guide would be the name of the producer, location, the breed for sale, quantity, sex, age, and price. The information would be assembled in cooperation with producers, various purebred livestock associations, the county agricultural agents, and vocational agricultural teachers. The State Departments of Agriculture would assemble the information and disseminate it at regular intervals to prospective purchasers, markets, county agents, vocational agricultural teachers, and departments of agriculture in other States at regular intervals throughout the year.

4. Providing basic information on livestock production and prospective marketings.

The services of the State Departments of Agriculture should include the collection of basic data and dissemination of information on livestock production and prospective marketings, so that the data will be of value to individual producers in planning their marketings to avoid peak movements and to obtain wider buyer interest. It is suggested that graphs, charts, and illustrations be used in showing the trends in marketing, prices, and production.

HOW TO PREVENT DETERIORATION AND SPOILAGE OF FRUITS AND VEGETABLES IN MARKETING CHANNELS

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I shall attempt in this talk to tell you what causes spoilage and deterioration in fruits and vegetables during marketing, how much the losses amount to, and finally what can be done to prevent them. Although this discussion will be confined to fruits and vegetables, much of what is said could apply to other perishable commodities such as meats, poultry, eggs, milk, and so forth. The biological aspects of marketing might well have been chosen as the subject of this talk.

Fruits and vegetables are alive.

Biology is a science dealing with living things. In the marketing of fruits and vegetables we are dealing with commodities that are alive, in the truest sense of the word. An apple or head of lettuce is composed of thousands of cells each alive and carrying on living processes. They take up oxygen, combine it with sugar or acid with the help of enzymes and give off carbon dioxide. This process is called respiration and it is common to all living things. Sometimes fruits and vegetables go on a binge and live too fast, using up food reserves and after a week or two of this type of dissipation they become the worse for wear. Put an apple in an overheated fruit store and keep it there long enough and it will lose all of its juicy crisp goodness and show symptoms of old age and senescence. Keep the apple in cold storage and it stays young and full of vim and vigor for months. Why is this? Research has shown that temperature exerts a powerful control over life processes in fruits and vegetables. An apple in a day at 70°F. ripens as much as it would in 10 days at 32°. Respiration rates are good indicators of the pace at which the fruit or vegetable is living. For every 18°F. rise in temperatures, say between 32° and 80°, we have a 2- to 3-fold increase in respiration rates. This holds true for other chemical reactions and gives good reason for the basic role of refrigeration in preserving perishable foods.

Molds and bacteria cause decay.

We have been discussing the biological reactions that go on in fruits and vegetables which lead to deterioration. We must consider another cause of spoilage, decay, perhaps the greatest destroyer of all. As fruits and vegetables grow in the orchard and field they become covered with mold spores and bacteria. This is reasonable to expect, for the soil and air carry millions of micro-organisms. Most fruits and vegetables have protective layers of specialized, heavy walled cells that make up the skin or epidermis. These cells form a good barrier against the entrance of micro-organisms. But if the skin is injured, the mold spore or bacteria finds a food medium on which to work in the juice of the injured cells. Most of the micro-organisms on the fruit or vegetable, which may be several million in number, are not decay producers but usually enough will be on hand to start trouble if given the opportunity. Some molds can gain entrance without assistance of careless workers, thanks to powerful cell wall dissolving enzymes they produce, but this is not often the case. Mechanical injuries are usually the site of infections.

Micro-organisms respond to temperatures much like the fruit and vegetables themselves. Low temperatures slow down their growth, and warm temperatures up to about 90°F. accelerate growth. High humidity or free moisture is necessary to germinate mold spores, which are much like seeds in this respect and their function as propagators of the fungi that produced them. So if we keep fruits and vegetables warm and humid, we usually increase infection.

How can we reduce chances from infection by decay organisms? Use good disease control programs in the orchard or field, handle the produce carefully to prevent skin breaks, refrigerate promptly, and use fungicidal washes or other treatments where they are available. More on control of decay will be given later.

Physiological diseases cause spoilage.

Some diseases of fruits and vegetables are not caused by decay producing organisms. Let's take common scald of apples as one example. It causes the skin of apples to turn brown. Scald is the most serious storage disorder of apples. It appears in some seasons and not in others. Oiled paper, used as wrappers or as shredded paper in the container, is the only good control method, but prompt refrigeration and delaying harvest until the fruit has reached full maturity are also important control measures. Breakdown of the flesh of apples and pears, usually a sign of overmaturity or old age, is another physiological trouble.

Potatoes and apples sometimes develop blackheart or brownheart when they are held in unventilated places or at too high temperatures. This is a disease due to a lack of sufficient oxygen for the cells to carry on respiration. Death of cells results; then the black color develops. All fruits and vegetables are subject to injury if they are deprived of oxygen. For this reason, we caution prepackagers of fruits and vegetables to perforate the plastic film used for this purpose. We must have holes in the film to let in oxygen for the fruit or vegetable to use, and to let carbon dioxide escape. Fruits and vegetables held in tight containers will almost always develop off-flavors and odors in a few days at warm temperatures.

Some physiological diseases of fruits and vegetables are caused by temperatures that were too cold, but short of freezing. You all know bananas can be chilled by temperatures lower than about 55°. The skin turns a sickly brown and the fruit fails to ripen. Mature green tomatoes also have a lower limit of about 50°F. Failure to ripen, susceptibility to decay, and poor blotchy color are symptoms of chilling injury which may appear if the tomatoes are held too long at cold temperatures. Pitting of the skin of grapefruit is another symptom of chilling injury. Immature fruit of small sizes are most susceptible to the trouble, which is now appearing in export shipments of some Florida fruit. There are many other fruits susceptible to chilling injury, and for a fuller discussion of desirable temperatures for fruits and vegetables in storage and transit, you are referred to U. S. Department of Agriculture Handbook 66, The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks.

Estimate of spoilage losses.

A preliminary appraisal was made of the losses in agriculture, published by the U. S. Department of Agriculture in mimeographed publication ARS-20-1 in June 1954. The estimates for losses during marketing for a number of fruits and vegetables are shown in table 1. These are estimates based on inspection records of rail shipments at terminal markets and surveys of losses in retail stores and in the home. There are some inconsistencies, such as the relative low losses in peaches. Obviously heavily decay infected fruit was not encountered in the samples making up the survey. Note that decay is the most common cause of trouble and that physiological disorders like scald, breakdown, blackheart, and tip burn are also important. The total loss for spoiled produce in these 20 fruits and vegetables amounted to about 250 million dollars annually. We do not have any measure of consumer dissatisfaction because of spoilage or loss of quality, but, if a monetary value could be placed on it, the amount would be high. These figures are good evidence that there is much work to be done in preventing deterioration of quality and spoilage in fruits and vegetables during marketing.

What can be done to reduce these losses?

I believe the first step in correcting practices that lead to spoilage is to identify correctly the condition in question. Too often we have reports of shipments of produce in trouble, but the cause is given in vague terms such as "decay breakdown" or "rot." We should know what kind of decay is involved, and we must by all means distinguish between a physiological trouble such as breakdown and decay due to micro-organisms. Qualified inspection agencies can be called on to identify the trouble. A series of handbooks on market diseases of the important fruit and vegetable crops has been issued by the Department to help to identify the cause of spoilage. When this has been done, we then have a better chance to uncover the cause of the loss. For example, some diseases like Rhizopus rot of berries or peaches make much growth only at temperatures above 50°F. Heavy decay of this kind in a shipment points to lack of good refrigeration. Several individual crops will be considered briefly to give a report of troubles encountered and new things tried to prevent spoilage.

Table 1.--Losses in fruits and vegetables during marketing 1/

Commodity	Loss	Farm value	Most common cause
	Percent	Dollars	
Apples	20.9	31,350,000	Decay, scald, breakdown
Cranberries	12.0	818,000	Decay
Grapefruit	12.8	5,120,000	Decay
Oranges	15.3	24,480,000	Decay
Peaches	5.8	5,800,000	Decay
Pears	7.2	2,880,000	Decay, breakdown
Strawberries	25.1	11,302,000	Decay
Beans, snap	8.0	3,489,000	Decay
Broccoli	9.6	1,451,000	Decay
Cabbage	11.6	6,096,000	Decay
Carrots	4.2	2,221,000	Decay
Celery	18.6	9,945,000	Decay, blackheart
Lettuce	24.5	30,002,000	Decay, tip burn
Muskmelons	13.2	5,688,000	Decay
Onions	26.0	12,624,000	Decay, freezing, sprouting
Potatoes	15.5	66,681,000	Decay, blackheart, freezing
Spinach	7.3	855,000	Decay, mildew, rust
Sweet potatoes	18.8	9,049,000	Decay, freezing, chilling
Tomatoes	21.6	25,850,000	Decay, freezing, chilling
Watermelons	25.0	4,248,000	Decay, mechanical damage
Total	-	259,949,000	-

1/ These estimates are from the publication "Losses in Agriculture," U.S.D.A. mimeographed publication, ARS 20-1, June 1954. They include losses in shipping, in marketing, and in the home.

Apples and pears

Decay control in the Pacific Northwest has been improved by a wash of Dowicide A (sodium orthophenylphenate) sold under the trade name of "Stop Mold." This is now used widely in commercial practices. It might be helpful in other apple growing sections. One of the newest methods of extending storage life of pears is packing them in polyethylene film lined boxes sealing the film. The pears, through respiration, build up the carbon dioxide content of the air in the box to about 3 or 4 percent (normal air has about 0.5 percent) and the oxygen level is reduced to about 17 percent from a normal of 20 percent. This change in atmosphere composition is sufficient to suffocate the pears slightly, putting them to sleep, and extend storage life about 6 weeks to 2 months. When the pears are removed from storage the film must be perforated to let the pears get enough oxygen to ripen properly. As long as they are held at low temperatures, they can stand the treatment. This treatment is in commercial use for western pears and was used for about 1 million boxes this year.

Unsealed film liners are used for wilt-susceptible apples like Golden Delicious, both in the Northwest and in the East. Sealed liners have not proved safe for apples.

Grapefruit, oranges, and lemons

Decay treatments have been used for many years for citrus fruits. Borax wash is still in use in California. Dowicide A-hexamine is in limited use as a wash in Florida. Biphenyl-treated cartons, liners, or wrappers are widely used in Florida and California. Better fungicides are being sought, but wider use of those now available and good refrigeration would help to cut down the heavy losses from decay. These losses usually show up after the fruit gets to market.

Peaches

What the peach industry needs more than anything else is good control of brown rot and Rhizopus rot. Much can be done by orchard sprays and dusts but there will always be infections taking place during harvest and packinghouse operations. A better fungicide than chlorine is needed in the hydrocooler and there is some promise that better ones will soon be available. Hydrocooling has improved refrigeration in transit very much and it is having a good effect on peach maturity. Green peaches are too green when they reach market if they are hydrocooled. Better quality comes from leaving the peaches on the tree longer and then refrigerating them adequately. The shippers and receivers are becoming aware of this. Better packages are called for if riper peaches are to be marketed.

Carrots

New refrigeration problems have come with the widespread use of consumer-size film bags for carrots. When carrots were shipped with tops on, they were packed in crates with crushed ice and the load was covered with ice. Now the shipper may decide to use fiberboard cartons for film bags of carrots. These shipments cannot be iced in the package or top-iced. Some shipments have shown as much as 35 percent decay on arrival. The remedy is to cool the carrots before packing, either by hydrocooling, icing the water in the washer, or icing the trucks of topped carrots as they come from the field.

Lettuce

The shipping of dry-pack lettuce in cartons is rapidly replacing the iced crate pack. Here we have another change in refrigeration practice that calls for new equipment and methods. Refrigeration must be used in lieu of the package ice and top ice, formerly relied upon, to keep the lettuce cold. Vacuum cooling is used as a substitute for package ice to cool lettuce after packing, and bunker ice in fan cars must be used to refrigerate the carton pack lettuce in transit. In winter months when the lettuce is fairly cool as it comes from the field, precooling in the car with fans has proved to be a satisfactory substitute for vacuum cooling.

Lettuce has some physiological troubles. Tip burn is a common one, causing the margin of the leaves to turn brown. It is related to warm weather during the growing season. Brown spot is another new physiological trouble that may cause brown spots to develop throughout the head of lettuce. It is apparently worse on the Great Lakes strains of lettuce, now grown widely, than it was on older varieties of lettuce. The remedy is probably going to be a change in variety.

Potatoes

Potatoes possess the property of healing wounds that should be given a chance to work. All that is required is a moderate temperature of about 55° to 75°F. and reasonably high humidities. New cells are formed and the wounded areas cork over in a week or more. For this reason, it is not advisable to cool freshly dug potatoes quickly to say 40°—their heat storage temperature. Let them cool gradually to this temperature, but get them down to 65° to 70° as soon as possible, for high temperatures can increase decay and physiological troubles. We have experimented with hydrocooling potatoes in California a number of years ago, and other methods of cooling have been practiced. Cooling the tubers to temperatures lower than 55° or 60° does not improve market quality for it interfers with the healing process.

Mechanical damage to potatoes is the most common cause of spoilage and loss. A new concept is needed in handling this crop. Because they are dug from the ground and are often not high priced, potatoes are abused more than any other vegetable. They need to be handled as carefully as any other fruit or vegetable.

Sweet potatoes

Sweet potatoes also have the property of healing wounds by growing new cells. Curing of sweet potatoes after digging accomplishes this as well as bringing about chemical and physical changes that enhance quality. Sweet potatoes should be held 10 days at 85°F. and 90 percent humidity to cure them after digging. Re-curing after handling or packing helps to control decay. Sweet potatoes should not be exposed to temperatures lower than 55° for more than a few days because of danger of chilling injury and resultant decay and poor quality.

Tomatoes

Most tomatoes are shipped in the mature green stage of maturity, and here we have a very temperature susceptible vegetable. To get best quality mature green tomatoes should not be held at temperatures lower than 55°F., and they should be ripened at 65° to 70°. Any attempt to hold back ripening by using temperatures of 50° or 45° will be paid for in poorer quality of the ripened product and an increase in decay. Many shipments of tomatoes may get into trouble with decay if they are a long time in transit under refrigeration. The tomatoes will look sound but when they are ripened, decay develops. If tomato shippers and prepackagers would treat the fruits properly, that is never really stop ripening but give it a chance to proceed, they would save losses and get better quality to the consumer. Picking the tomatoes just before they break in color would help quality. Ripening them to a more uniform red color before sale would also help to give the consumer better quality.

Summary.

There is much room for improvement in the marketing of fresh fruits and vegetables. Education of the produce trade on the reasons for spoilage and loss of quality is the first step in remedying the shortcomings of present practices. The physiological aspects of spoilage and the role that bacteria and molds play were considered. Careful handling and refrigeration are two important things needing attention. Knowing what temperatures the commodities will tolerate is essential to intelligent practices in handling, transportation, and storage. Fungicidal treatments offer promise as supplements to good refrigeration and careful handling.

RECOMMENDATIONS BY THE SIX CONFERENCE GROUPS FOR MAINTAINING QUALITY OF PRODUCTS

I. Dairy Products

Harvey Weavers, Wisconsin, Chairman
Louis Herrmann, AMS, Secretary

Quality of dairy products is subject to deterioration at all stages of the marketing process. Different causes operate at each stage, and different measures are required to combat them.

Some of the difficulties arise on the farm where, from lack of care and sanitation, the milk may become unfit for processing before it reaches the plant. Often the problem is greatest among small producers whose facilities are most likely to be inadequate or who may fail to give the attention to a small quantity of milk that they would give to a larger quantity. Proper cooling is costly for small quantities of milk, but without it the quality of milk deteriorates rapidly. Bulk assembly is potentially a means of protecting quality, but the benefits of better cooling may mislead producers into neglect of other proper sanitation.

Failure of milk to meet reasonable standards of odor and freedom from sediment alone accounts for rejection of as much as 3,000,000 pounds of milk annually in one State. In another State, examination for objectionable odors leads to the rejection of about 2,250,000 pounds of milk received by plants participating in a quality control program, and sediment testing accounts for rejection of about the same quantity.

In dairy plants, improper or faulty sanitation is the greatest cause of losses, although butter quality problems are largely attributed to poor quality of farm-separated cream. Bacteriophages, antibiotics in milk, oxidized flavor, feed and weed flavors are other common causes of poor quality.

In packaging of dairy products, butter and cheese have often been affected by wrappings which were improperly stored or treated before use.

Storage of dairy products causes losses where there is failure to move old stock, especially cream and ice cream.

Every defect in production and processing can be expected to show up in the finished product.

Effective protection of the quality of milk delivered by farmers is being accomplished by joint efforts of service and regulatory programs. Frequently, a service project may serve to develop quality to a level where a regulatory program becomes practicable without undue hardship, as in the case of the Wisconsin program for butter grading. Service work on quality problems within plants and in the channels of trade may be handled on a case study basis wherever these problems arise.

II. Poultry and Eggs

Mancil Vinson, Kentucky, Chairman
Hermon Miller, AMS, Secretary

A. Identification of marketing problem.

Eggs. There have been numerous research projects studying quality levels at various points and correlating various production and marketing practices with quality levels. The group reviewed production practices which were related to quality at the farm and generally agreed with the findings reported in various research bulletins. 1/ These studies did not report that there was a relationship between size of flock and egg quality, but the group agreed that adequate size flocks were important to any program to improve quality.

1/ Marketing Practices and Egg Quality, 1948-49 Cornell Bul. No. 858. Changes in Egg Quality During Marketing, 1948-49 Michigan Spec. Bul. 361, and others.

A. WILLIAM JASPER - Poultry Farm Practices and Egg Quality, Mktg. Res. Rept. 22, U. S. Dept. of Agri. 1952.

U. S. DEPT. AGRICULTURE - Seven Ways to Greater Egg Profit. Leaflet No. 327, Prod. and Mktg. Adm., U. S. Dept. of Agri., May 1952.

H. D. SMITH - Farm Practices That Influence Egg Quality. Bul. A55, Agr. Expt. Sta., Univ. of Maryland, College Park, Md.

W. C. THOMPSON - Proper Handling of Eggs on the Farm. New Jersey Expt. Sta. Hints to Poultrymen, Vol. 21, No. 5, p. 34., 1934.

There is need for research information regarding proper practices for washing and oiling eggs in order to preserve quality. There is need also for improvement in candling procedures.

Poultry (Broilers, turkeys, and farm chickens). Factors which result in poor quality at the farm include disease and mechanical damage causing bruises, blisters, etc.

Considerable damage occurs in marketing poultry due to handling practices during catching, hauling, and unloading. This damage should be minimized.

B. Ways to initiate and carry out expanded programs on maintaining poultry and egg quality.

Eggs. One State, using the results of research, has successfully initiated a program with handlers to improve the movement from the farm to the terminal markets and to get producers to adopt recommended practices.

General practices to maintain quality, i.e., proper refrigeration and humidity control at all steps and care in handling to avoid damage, should be encouraged.

Encourage producers to deliver high quality eggs by reflecting quality in price.

Encourage egg grading schools.

Work with retailers and handlers to encourage proper practices to maintain quality giving recognition to the need at all times for maintaining proper temperature and stock rotation.

Poultry (Broilers, turkeys, and farm chickens). Explore possibilities to encourage proper production practices by paying producer on a quality basis. In one State processors are contracting with broiler producers to raise broilers for the account of the processors, the producer being paid 1/2¢ a week for each bird or 5¢ a bird raised over a 10-week period with the processor providing feed and birds. In addition producers receive a premium over the base price for quality and production efficiency based on a fee conversion factor. This procedure is resulting in improving the quality of broilers produced.

In some areas, procedures for assembling broilers have been developed which eliminate one or more of the handlings, thus saving labor and reducing damaged.

Encourage proper processing practices--scalding, picking, packaging, use of chlorination to preserve shelf life, etc.--to preserve quality and minimize damage.

Acquaint retail store operators with proper handling procedures.

III. Fruits and Vegetables

J. S. Vandemark, Indiana, Chairman
Arthur E. Browne, AMS, Secretary

Self-service merchandising in retail food stores has presented the fruit and vegetable industry with perhaps a greater sales opportunity than it has any other food group, but, at the same time, it has presented a real challenge. To take full advantage of this opportunity the fruit and vegetable industry must provide the consumer with products of good quality and condition and attractive in appearance. If quality preservation fails at any stage in the marketing process much of the effort up to that point has been wasted.

It was the consensus of the Fruit and Vegetable Working Group that the State Departments of Agriculture, working with the Extension Services and Agricultural Experiment Stations wherever practical, can assist fruit and vegetable growers, shippers, distributors, and retailers to adopt many practices that will aid in maintaining quality throughout the marketing process. These include:

1. Better harvesting and handling practices.

   a. Picking for more uniform maturity, as, for example, with peaches.
   b. Elimination of rough handling during harvest--apples, potatoes, sweet potatoes.
   c. Use of washing and grading equipment that minimizes bruising.
   d. Elimination of types of packs that cause much pressure bruising and cuts.
   e. Elimination of rough handling in loading and unloading.
   f. Adoption of methods for moving apples, potatoes, and other storage crops into and out of storage so as to reduce the amount of handling.

2. Precooling (hydrocooling, vacuum cooling, or other methods) to reduce field heat as rapidly as possible and thus increase market life.

3. Treatments by sprays or dips (usually postharvest) to reduce losses from decay.

4. Use of loading patterns in cars and trucks that will reduce damage from shifting and vibration.

5. Proper temperature control in transit.

6. Adequate refrigeration at wholesale and retail markets.

7. More protective packaging, and wherever possible, more uniform packaging.

8. Adoption of varieties and types of products that will be less subject to damage or deterioration during marketing.

9. Adoption of practices for handling raw products for processing by both growers and processors that will result in better quality processed products.

It was recommended that the USDA prepare for use by workers in State Departments of Agriculture a concise loose-leaf manual of recommended handling practices, fungicidal treatments, transit and holding temperatures, and other pertinent information on quality maintenance for each of the important fruit and vegetable crops. In addition, it was suggested that if possible, in conjunction with the manual, a short film strip illustrating common types of damage to fruits and vegetables be made for use with grower, shipper, and other groups.

Attention was called to the following bulletins which provide valuable reference material on market diseases of fruits and vegetables and on recommended refrigeration temperatures:

"The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks." USDA Handb. No. 66.

"Market Diseases of Fruits and Vegetables: Potatoes." USDA Misc. Pub. 98.

"Market Diseases of Fruits and Vegetables: Apples, Pears, and Quinces." USDA Misc. Pub. 168.

"Market Diseases of Fruits and Vegetables: Peaches, Plums, Cherries, and Other Stone Fruits." USDA Pub. 228.

"Market Diseases of Tomatoes, Peppers and Eggplant." USDA Handb. No. 28.

IV. Cotton and Tobacco

Charles E. Campbell, West Virginia, Chairman
Marshall J. Goss, ARS, Secretary

Cotton

Processing and marketing services as provided by custom cotton ginners are so thoroughly established that the cotton marketing channel is now recognized as beginning with the movement of seed cotton from the farm. Cotton as a commodity deteriorates very little, if any, under proper storage. Damage in transit is practically limited to contamination. Modern cotton gin processing involves three functions as follows:

(1) Removal of foreign matter and excess moisture.
(2) Separation of fiber from the seed.
(3) Packaging of the fiber.

These functions are so interrelated that improper operation in one field is reflected in the others.

Since no known mechanical process can add to the inherent qualities of cotton fiber, there is an obligation on the part of the custom ginner, as a marketing agent, to maintain the maximum value of the seed cotton processed.

Marketing services designed to maintain cotton fiber quality in marketing channels should begin with technical assistance to cotton ginners. Field activities when carried on by qualified personnel afford excellent opportunities to improve trade practices, business customs, and public relations.

Tobacco

In order that the tobacco growers may maintain the quality of the product and increase their returns, it is necessary to carry out more careful handling and better preparation of their tobacco for market.

Many growers do not have adequate facilities, including lighting, for sorting and handling. There is also a lack of knowledge of proper methods of handling tobacco and preparing it for market, such as the determination of complete and thorough curing and readiness for bulking and stripping, the proper handling order or "case," the number of grades, the size of the hands, the proper tying of the hands, the bulking, and the loading for market.

The facilities needed and the proper methods to handle and prepare the tobacco for sale should be demonstrated to groups of growers and to others who, in turn, can assist growers. These demonstrations, also, should show the growers the qualities, groups, and colors of tobacco which constitute the Federal grades. The growers should also be advised of their privileges in the selling of their tobacco on the auction market as to their rights to reject and resell tobacco, the availability of the Federal Inspector for review of doubtful grades, and general information concerning the conduct of the auction. Programs should be developed to promote mutual interest and understanding among growers, warehousemen, and manufacturers with respect to the proper handling, packing, displaying, and selling of tobacco.

V. Grain

John Winfield, North Carolina, Chairman
Roy Allgyer, ARS, Secretary

The problem of maintaining quality in grains involves many factors. However, consideration is given only to some of the major factors occurring after harvest.

For the most part, greatest losses occur from deficiencies in conditioning, handling, processing, and storage. More specifically these problems can be identified as follows:

(1) Excess moisture and temperature.
(2) Presence of foreign material.
(3) Insect infestation and rodent contamination, and
(4) Inadequate conditioning, handling, and storage facilities.

Proper application of proven methods and techniques could materially reduce losses. However, there is a real need for an accelerated educational and technical assistance program in the various States. A wealth of information is already available relating to various aspects of the problem. This information should be consolidated and simplified to provide the basis for an intensive educational program with farmers, grain handlers, local and terminal elevator operators and processors. In addition, competent technical assistance relating to the remodeling of existing facilities, planning and construction of new grain handling, conditioning and storage facilities including fumigation equipment and practices should be made available.

VI. Livestock

C. R. Underwood, West Virginia, Chairman
George Turner, AMS, Secretary

A. Improved production practices.

Livestock producers incur considerable losses in the sale of their livestock because of poor production practices, such as lack of castration, improper castration, docking, and dehorning.

It is suggested that the State Departments of Agriculture give consideration to the development of specific programs in cooperation with the Extension Service to demonstrate the value of improvements in these production practices to producers.

B. Disease control and prevention.

In spite of the progressive livestock production practices generally adopted by producers in the United States, the losses in livestock from diseases, parasites, and injuries are estimated by some sources at about $800,000,000 annually. In an effort to prevent the spread of diseases and to control losses from diseases and parasites, most States have enacted legislation dealing with controls, both on the farm and in the markets.

It is suggested that the State give consideration to the development of a more effective inspection program to assure compliance with existing regulation.

C. Selling livestock by grades.

The grading of livestock is important in supplying to buyers the kind of animals desired and in reflecting trade preferences back to the producers. Assistance in grading livestock for local sales, as now carried on by several State Departments of Agriculture, is an effective method of filling a gap in our system of marketing livestock. We recommend that it be continued and expanded wherever practical. Local demonstrations in cooperation with the representatives of the market news service, the Extension Service, livestock associations, and marketing agencies should be encouraged.

D. Minimizing losses from bruises and injuries.

It is recommended that the State Departments of Agriculture, in cooperation with National and State Livestock Conservation Association, and the Extension Service coordinate their efforts to reduce losses occurring from bruises and injuries at all levels in the livestock marketing system by systematically maintaining posters and other educational material in proper places and by conducting demonstrations with interested groups using slides, graphs, and charts.

HOW TO REDUCE COSTS OF MOVING PRODUCTS THROUGH THE MARKETING SYSTEM

POSSIBILITIES FOR REDUCING HANDLING COSTS

William H. Elliott, Head, Handling and Facilities
Research Section, Transportation and Facilities Branch,
AMS, USDA

Depending somewhat on the definition different people give to the term "handling," its use in the topic assigned to me might prove to be entirely too restrictive to permit coverage of many of the possibilities for reducing the costs of other kinds of physical marketing operations. To industrial engineers, "handling" usually means the movement of products into, within, and out of storages and other kinds of facilities, including the loading and unloading of motortrucks and railroad cars. They refer to these operations as "materials handling."

To agricultural engineers, "handling" usually means the physical operations performed for maintaining or improving product quality--as the turning of grain from one storage bin to another bin for aeration and the turning of cheese in storage for proper aging. Both groups of handling operations are necessary and important in marketing farm and food products. Annually they require millions of man-hours of labor and involve thousands of dollars in equipment costs. I shall discuss later the possibilities for reducing these labor and equipment costs.

However, there are a number of physical operations required in marketing farm and food products that usually are not considered as handling operations. These are the operations usually referred to as "conditioning products for safe storage" and "preparing products for market." Conditioning includes drying, cleaning, and comparable work. Depending on the type of product, "preparation for market" may include dumping, washing, sorting (grading), sizing, packing, lidding, labeling, and tallying. For certain types of products, the latter group of operations may require more labor and larger equipment costs than handling operations. In many cases there are greater possibilities for reducing these costs than for reducing the costs of handling.

What are the principal items of direct cost involved in handling products and performing other physical operations required in marketing these products? For the purposes of this discussion, I think we might group the items of direct cost as: (1) Labor, (2) equipment, (3) facilities, and (4) all other, including management, containers, packaging materials, etc. In his discussion this morning, Dr. Pentzer outlined the importance of spoilage and deterioration as an indirect cost of handling and other physical marketing operations.

As a basis for exploring the possibilities of reducing these direct costs, it would be well to look briefly at their size and importance in the total marketing bill, since obviously this is not the usual grouping of costs by such marketing functions as assembling, transporting, storing, wholesaling, and retailing.

First, let's take a look at labor costs. The 1955 Outlook Issue of The Marketing and Transportation Situation states "Marketing charges (including excise taxes) absorbed about 50 billion of the estimated 75 billion dollars that consumers in this country spent in 1953 for goods derived mainly from domestic agricultural products.... Labor is the major cost item in this 50-billion-dollar marketing bill. Salaries, wages, and other labor costs incurred by firms engaged in assembling, processing, and distributing farm-produced food products accounted for nearly half of the total cost of marketing these products in recent years."

As labor costs are an even larger part of the costs of firms that handle and distribute nonfood products such as cotton, wool, tobacco, and their products, it safely can be assumed that the total cost of the labor employed in 1953 was in excess of 25 billion dollars, or nearly 7 percent of the gross national product.

That was in 1953 and total labor costs for 1954 may be still higher because "average hourly earnings of employees in food marketing firms were 4 percent higher in August 1954 than a year earlier." However, there appears to be some promise that "any increases in hourly earnings in 1955 may be offset by increases in the productivity of labor."

Although the costs of equipment used by marketing firms are not reported as a percentage of total marketing costs, when equipment ownership and operating costs are combined, they undoubtedly make up a substantial part of the total marketing bill. Moreover, if increased sales of new and improved types of materials-handling equipment to marketing and storage firms can be used as an indicator, it is likely that equipment costs are increasing.

However, this is one increase in marketing costs I personally do not view with alarm. It probably is the basis for the prediction that in 1955 any increases in hourly earnings of labor may be offset by increases in labor's productivity, as equipment wisely selected and properly used can forestall large increases in labor costs and, when considered on the basis of a fixed unit of output, should reduce these costs.

Whether total equipment costs to marketing firms are relatively large or small in relation to the total marketing bill, they should not be ignored in evaluating methods available for performing given work. The hourly costs of owning and operating a forklift truck usually exceed the hourly earnings of its operator. Therefore, comparisons of methods made on the basis of labor requirements alone are likely to be misleading.

Facility costs also make up a substantial part of the total marketing bill. However, as they are not reported as a percentage of total marketing charges, no exact estimate is possible. In the older wholesale food market districts of some cities, where a monopoly of space exists, facility costs bear little relationship to the investment or value of facilities. However, the exorbitant rentals paid in some cases might be "bearable" if the facilities were properly designed and made possible reduced handling costs. Most of them are not so designed.

Fortunately this situation does not exist at all stages of the marketing system, and in recent years the annual investment of millions of dollars in new facilities is helping to correct the situation. In some places these investments may increase total facility costs. But here again, I will not be alarmed over such increases if the facilities are properly planned and efficiently operated, because I feel sure that these increases will be more than offset by reduced handling costs.

Most of the possibilities for reducing the costs of handling and preparing products for market undoubtedly are in the area of reduced labor costs. In this connection, I should like to emphasize that I am not suggesting a reduction in the wage rates or hourly earnings received by labor. Nor am I suggesting that the total amount paid to labor employed for marketing operations can be reduced. I doubt that we are going to reduce total labor costs when the volume of products to be handled is increasing and when housewives are demanding additional services.

I am suggesting, however, that labor costs per unit of output or for a given volume handled can be reduced by increasing the productivity of labor. We can do this by: (1) Providing labor better tools to work with, (2) developing more efficient methods for using these tools and training workers properly to use these methods, and (3) providing labor with properly designed facilities in which to work.

Although most of the possibilities for reducing labor costs are through making labor more productive, we should not overlook the possibilities for reducing labor requirements by eliminating certain handling operations and by reducing the number of times products have to be handled. The Transportation and Facilities Branch recently has initiated a rather comprehensive research project to determine the feasibility of eliminating the turning of grains in commercial storages by the installation of aeration systems which would move relatively small quantities of air through the stored grain. Leo Holman, who is our supervisory leader, will discuss this work in more detail with the Grain Group following this session. We have found numerous cases where the number of handlings can be reduced.

One of the best illustrations is the number of handlings required for unloading produce from cars on team tracks and trucking them to warehouses as contrasted with the number of handlings required when produce is unloaded from cars on house tracks directly into the facility. For the receiving cycle of operations, handlings are cut to half. In other cases the number of handlings can be reduced by handling packages in unit loads rather than individually. (This is somewhat synonymous with increased productivity of labor.)

For certain kinds of operations involved in marketing, nonlabor physical "inputs" may be more important that labor "inputs." These include electricity for operating aeration, ventilation, and refrigeration systems; gas or oil for operating drying equipment; and coal for operating steam plants. Here the emphasis is on more efficient equipment which is not considered as a "tool" for making labor more productive.

In the Transportation and Facilities Branch, we feel that a relatively large part of this problem of reducing the costs of physical operations required in marketing farm and food products can be resolved through the development of more efficient work methods, devices, equipment, and facilities. A large part of the Branch's program is pointed toward this general objective. However, we are not unmindful of the organizational, managerial, institutional, and other factors that effect the efficiency of marketing operations.

How do we go about this research to develop improved work methods and equipment for making labor more productive and what can be accomplished? A few illustrations of improved handling methods and equipment developed are all that can be discussed in the time allotted.

A portable mechanical lift has been developed for high-piling and breaking out high-piled boxes of apples. The problem was to develop equipment for use in older plants for stacking and breaking out of stacks of boxes above the lower six boxes which are handled as unit loads by use of two-wheel hand trucks. Traditionally, manual methods were used because suitable equipment was not available. By use of a two-man crew, 5.66 man-hours of labor were required to high-pile 1,000 boxes of apples in 12-box-high stacks and 4.83 man-hours to break out 1,000 boxes from stacks of that height.

By use of a lightweight portable mechanical lift, which was developed by research workers and built by an equipment manufacturer for test purposes, the labor required for high-piling 1,000 boxes of fruit in 12-box-high stacks was reduced to only 1.78 man-hours--only 32 percent of the labor required by the manual method. For breaking out boxes from 12-high stacks, the lift is even more efficient, as it is possible to break out 1,000 boxes with 0.95 of a man-hour, or about 20 percent of the labor required by the manual method. This lift is now widely used in apple houses and in other facilities.

Not all work in this area involves the development of new equipment. An example of how the separation of individual operations comprising a cycle of operations can increase the efficiency with which the operations are performed can be shown by describing an improved method used for receiving bales of cotton in public warehouses. Receiving involves the performance in succession of the following operations: Unloading bales from railroad cars or motortrucks, weighing, sampling, transporting to the storage, and storing. Because of problems in weighing the bales, many warehouses still use two-wheel hand trucks for performing these handling operations.

Time studies of receiving operations, in which two-wheel hand trucks were used for unloading and transporting uncompressed bales and automatic platform scales were used for weighing them, show that 6 man-hours of labor are required by a 15-man crew for receiving 50 bales when the operations are joined. Of the total labor required, 3.61 man-hours are lost because of delays and other wait time.

It was found that by moving bales into and out of temporary blocks, so as to separate the operations in the receiving cycle, the labor required by use of an 11-man crew to receive 50 uncompressed bales of cotton could be reduced to 4.40 man-hours--a saving of roughly 25 percent. The use of temporary blocks requires no change in the types of equipment used for handling and weighing. However, the number of two-wheel hand trucks needed is reduced because four fewer hand truckers are used when the bales are moved into and out of temporary blocks. A disadvantage in separating the operations by use of temporary blocks is that the elapsed time required for receiving a given number of bales is increased.

Research to develop improved work methods and equipment for handling farm and food products is being continued and we now have work under way in cotton warehouses, the stores and warehouses of wholesale produce distributors, and potato storages. Work on improved handling methods in Pacific Northwest apple houses has been completed and part of the results have been published. A report covering an evaluation of handling methods in refrigerated warehouses currently is being reviewed for publication. In these reports, we are publishing standard data on labor requirements for various handling methods which should be of use to marketing service and educational people in evaluating individual plant operations and effecting improvements.

An example of how the costs of preparing products for market can be reduced is the development of a new fruit-sorting table. Most of the sorting tables or belts now in use merely move or translate fruits and vegetables to be sorted into grades before the "inspectors or graders" at a fixed or predetermined rate of speed. No provision is made for rotating these products as they pass by the graders so that entire surface of each item will come into view. As a result the graders pick up individual fruits and rotate them in their hands. Moreover, these sorting belts make no provision for assigning responsibility to individual workers. As a result, when 5 or 6 girls are assigned to one side of a table, each fruit may be inspected 5 or 6 times. To increase labor efficiency in fruit-sorting operations and maintain inspection efficiency, a new "float-roll" sorting table has been developed. This table can be operated at variable speeds of translation and rotation and is divided into lanes so that each worker is responsible for sorting the fruit in only one lane. This table reduced labor requirements for sorting apples about 50 percent with no decrease in inspection efficiency.

Work in this general area is being continued. Current work in Pacific Northwest apple houses is pointed toward the development of improved accumulator-packing station devices which, if successful, should provide a needed "link" in the development of equipment for semimechanical packing of apples in trays. Effort also is being initiated on improved work methods and equipment for candling and cartoning eggs and for sorting, sizing, and packing potatoes. Work in poultry dressing plants and fluid milk plants also is under way.

Finally, I should like to discuss briefly the part improved marketing and off-farm storage facilities can play in making possible savings in handling and some other marketing costs. I feel sure that all of us who are engaged in marketing work know of cases where defectively designed or inadequate facilities are resulting in inefficient and excessively costly operations, but I doubt that many of us have had an opportunity to analyze the magnitude of some of these deficiencies. One illustration which can be cited is the wholesale produce market facilities in one of our larger eastern cities. A study made by the Branch showed that the kind and amount of facilities needed in that city could be paid for in four years by the savings in cartage, labor, and other costs effected by facilities.

In the Transportation and Facilities Branch, we devote considerable time to facility design features, such as the height of platforms, which to some people might appear to be trivial. Just what difference does it make whether platforms where motortrucks load and unload are 35 or 45 inches high? One example should answer this question. On a wholesale produce market facility constructed in a large midwest city in the early 1930's, the height of store platforms is about 30 inches. To handle unit loads of produce on pallets and skids it is necessary for one dealer to keep a forklift truck on full-time duty, solely for the purpose of lifting or lowering these loads a height of about 15 inches, the difference in the average height of motortruck beds and the platform.

New or improved marketing and off-farm storage facilities are constructed for two main purposes: (1) To make possible the adoption of more efficient handling methods and equipment and (2) to provide safe storage conditions for the products handled. It therefore is necessary that facilities be designed specifically for the handling method (or methods) to be used. These designs also must take into account the kinds of equipment needed to provide safe storage conditions.

Increases in marketing research funds have made possible a substantial expansion, both in the Department of Agriculture and the State Agricultural Experiment Stations, of research designed to increase marketing efficiency. Considerable work has been completed and the results published. Additional studies and reports now are nearing completion. However, the programs designed to extend or otherwise get the results of this research into use by the marketing firms for which they were intended appear either to be scattered or nonexistent. I hope that in this workshop you people will give serious consideration to the development of well-rounded service programs in this field.

RECOMMENDATIONS BY THE SIX CONFERENCE GROUPS FOR REDUCING COSTS OF MARKETING

I. Dairy Products

William J. Murphy, North Dakota, Chairman
Louis Herrmann, AMS, Secretary

Examples of excessive costs may be found throughout the marketing of dairy products. In the procurement or assembly of milk, duplication of routes is an important factor, but its solution is complicated by the desire to preserve the benefits of competition. Bulk assembly of milk offers opportunities of substantial economies in some circumstances but not in others.

A variety of possible savings has been demonstrated in studies of Indiana fluid milk plants: streamlining of receiving room operations; reducing the variety of products handled; proper choice of container type for the size of business; use of automatic equipment where feasible; avoidance of equipment and methods grossly unadapted to the size of business; improved clerical and administrative services. Some costs are excessive because of "frills" adopted as competitive devices or mandatory under questionable health requirements.

Some excessive costs arise from general conditions in the industry, notably excessive numbers of dairy plants and duplication of procurement and distribution areas. Wide seasonality of production is an indirect source of excessive dairy marketing costs.

Some cost-reduction work can be carried out by mass education methods, public meetings, and other methods of communication. But much work must be done on a case study basis. It is often a matter of "organized common sense," but it takes much hard work and is an expensive service to provide. It is especially true that individual surveys are needed to determine the desirability of the door-to-door method of milk distribution versus sales through retail stores, glass versus paper containers, multiple quart containers, vending machine operations, and other choices, which may differ according to the situation. Use can be made of performance and cost standards in the budget method of solving these problems.

The justification for service work in this field rests on the expectation that through competition the savings made by processors and distributors will come to be shared by producers and consumers. Such service may be particularly helpful in avoiding the needless failure of smaller firms.

II. Poultry and Eggs

Marvin Faller, Louisiana, Chairman
Hermon Miller, AMS, Secretary

A. Identification of marketing problems.

In order to minimize marketing costs it is essential to have balance in the use of labor, equipment, and facilities at all the various points in the marketing process. Studies by various research agencies, particularly the Transportation and Facilities Branch of the United States Department of Agriculture, reveal the importance of reducing the use of labor and substituting mechanical means for handling wherever practicable. Handling steps should be eliminated wherever possible to reduce costs as well as to reduce physical damage to the product. There are opportunities for service to handlers at all steps, from the farm to the consumer.

B. Ways to initiate and carry out expanded programs to reduce marketing costs.

Eggs. Assistance can be provided to product handlers in connection with the construction of new facilities or the remodeling of old ones to bring about the most efficient flow of products in the marketing processes. Results of studies are available to provide factual information as guides for such assistance.

Attention should be given to the necessity for maintaining proper temperatures at all handling points. Quality decline is a very important cost factor, yet one where proper methods may be relatively easy to apply at all points from the farm through the retail store.

Procedures to make use of multiple-unit handling methods should be explored, i.e., palletizing wherever possible, using power equipment to move loads, etc.

Encouraging the cartoning of eggs at assembly points in production areas from flocks of known fine quality production, wherever feasible considering quality, will result in lower costs and reduced handling. Many handlers need assistance in developing candling procedures to meet special circumstances and to effect maximum economies.

Poultry (Broilers, turkeys, and farm chickens). Explore ways to effect economies in procuring poultry from the farm. There are numerous systems being used in assembling commercial broilers and transporting them from the farm to the processing plants, which reduce handling and effect savings in costs and also reduce damage to the live birds. Adoption of such procedures, wherever possible, should be expanded.

Service personnel should use every opportunity to assist processors to effect savings in handling procedures throughout the processing plant including methods of unloading the live birds, operation of feeding stations through dressing, evisceration, and packaging.

Improved methods should be developed to increase opportunities to dispose byproducts--offal, feathers and blood--in order to realize greatest economic return.

Methods to extend the shelf-life of poultry should be encouraged. These include encouraging the use of sound sanitation practices, correct use of detergents and inplant chlorination wherever practicable.

III. Fruits and vegetables

George H. Chick, Maine, Chairman
Arthur E. Browne, AMS, Secretary

It is estimated that producers of fruits and vegetables as a whole receive approximately one-third of each dollar spent by consumers for these products. In view of the consumer demand for increased services, such as packaging, and the greater need to protect quality in order to insure that products will be attractive to consumers, the costs of moving fruits and vegetables through marketing channels are tending to increase. As a consequence, there is greater need than ever before for the adoption of methods and practices at all levels of marketing that will lower per unit costs.

Among the means for reducing marketing costs, the Fruit and Vegetable Working Group considered the following:

1. More efficient methods of handling, storing, and preparing for market.

    a. In producing areas

        (1) Rearranging work methods to increase labor productivity without additional equipment. This may include eliminating unnecessary functions, reducing crew size, or reducing the number of times a product is handled through such means as field-packing instead of shed-packing where feasible.
        (2) Devising or adopting improved or new equipment, such as improved washers, sorting tables, hydrocoolers, conveyors and other materials handling equipment in packing houses, field-packing equipment, and even harvesting machinery.
        (3) Improving existing facilities or building new facilities. Layout and design should consider flow of operations, appropriate equipment and handling methods, floors, platform heights, door sizes, etc. Includes fruit and vegetable packing sheds, and potato, onion, and apple storages.

    b. In terminal markets

        (1) Rearranging work methods to increase labor productivity without additional equipment in wholesale houses, and in tomato and general line prepackaging plants.
        (2) Devising or adopting improved or new equipment, such as forklift trucks and pallets, that will increase size of handling units and decrease number of handlings.
        (3) Improving existing facilities or building new facilities such as service wholesalers' warehouses to incorporate best known design and layout.

    c. In retail stores

        (1) Rearranging work methods to better utilize labor supply, as, for example, by packaging in store during slack periods.

(2) Devising or adopting improved or new equipment to reduce losses during display and storage and to lessen amount of handling in store.

2. Cheaper containers and packing methods.

   a. Many new types of packages are being introduced that are cheaper than those previously in use. In most instances use of these new packages also permits reductions in packing costs as well.

   b. Adoption of uniform types of new containers in many Eastern and Midwestern States, where second-hand containers are now being used, often reduces costs of handling in subsequent operations because of better stacking, suitability to palletizing, and the like.

3. Cheaper and improved transit practices.

   a. Improved loading patterns can reduce losses from bruising due to shifting of loads and from deterioration due to improper ventilation and refrigeration.

   b. In many instances less expensive icing practices in transit will deliver products in as good conditon as more expensive icing practices.

4. Precooling may actually lessen costs by reducing losses from deterioration in transit and distribution.

5. Improved terminal market facilities at specific locations make possible the use of more efficient work methods and materials handling equipment and reduce the number of handlings of individual packages.

Work should be carried on in cooperation with State and Federal research agencies and with the State Extension Services wherever feasible.

IV. Cotton and Tobacco

C. E. Campbell, West Virginia, Chairman
Marshall J. Goss, ARS, Secretary

Cotton

The cost of moving cotton through marketing channels may be reduced through the use of modern materials-handling equipment for the movement of cotton into, within, and out of warehouses and loading it for shipment.

Marketing services directed toward the reduction of physical handling costs can best be carried out by engineers and marketing specialists who are familiar with the information available on the best types of handling equipment, improved methods for use in different types of warehouses, and the most efficient design for warehouses. The technical assistance to warehousemen should be on a plant-to-plant basis with engineering recommendations applicable to the specific problems of the individual warehouseman.

Tobacco

Since many opportunities for reducing the cost of tobacco marketing operations are through more efficient use of labor, it becomes necessary to consider the installation of modern materials-handling equipment, including conveyor systems, for the movement of tobacco inside and outside of warehouses. When feasible, qualified personnel should give special emphasis to work simplification and other methods--engineering research which may bring about more efficient warehouse operations resulting in lower costs. The marketing service and engineering assistance to tobacco warehousemen should be on an individual basis with the technicians working directly with the operators to solve specific problems encountered.

V. Grain

O. W. Faison, North Carolina, Chairman
Roy Allgyer, ARS, Secretary

The work group feels that it is impossible to consider reduction of handling costs without recognizing at the same time the costs involved in maintaining quality. A number of these factors are covered in the preceding section of this report.

This section of the report pertains to certain factors directly related to the physical movement of grain from field and farm through the market channels. Areas considered and discussed as potential sources of reducing handling costs were:

(a) Bulk versus bag handling.
(b) Modernizing existing facilities and planning the construction of new facilities.
(c) Efficient management and operation.
(d) Efficiency and cost of various types of transportation.

It must be recognized that any losses in the handling of grain constitutes an increase in cost and therefore all possible means should be explored to minimize these losses.

A coordinated attack by the State Extension Service, State Departments of Agriculture and Experiment Stations in cooperation with the United States Department of Agriculture should direct efforts toward the reduction of costs in the handling of grain, because of its urgency, in all areas as rapidly as funds and personnel permit.

As specific examples of reducing costs in grain handling, technical assistance should be made available to all segments of the trade in connection with remodeling existing facilities; the planning of new grain handling;

drying, storage and marketing facilities; technical training of operators in respect to grade and quality; and other related activities designed to increase efficiency and economy.

Additional research is needed to fill out the gaps in our existing information in order that we can more efficiently and economically handle and market grain. It is recognized that constant changes in production and marketing practices pose problems requiring new and expanded research.

As a means of further expediting and directing action in behalf of a more effective educational, service, and research program, based on the experience of several States, the work group suggests that State-wide committees be organized to include specialists in the fields of agricultural engineering, entomology, agronomy, cereal chemistry, economics, marketing, plant breeding and representatives from Agricultural Stabilization Committees and farm and trade organizations to work cooperatively in the solution of current and future marketing problems.

VI. Livestock

Matt Jennings, Tennessee, Chairman
George Turner, AMS, Secretary

A. Moving livestock from farms to markets.

Losses from bruises and injuries to livestock could be reduced by improved handling methods and loading facilities at the farm and in transporting livestock from farms to markets.

It is urged that State Departments of Agriculture develop programs which will provide producers with information on

(a) the proper methods of handling and loading livestock on trucks;
(b) the type and design of facilities needed for the corraling and loading livestock at the farm; and
(c) the value of truck enclosures to protect animals during cold weather.

It is recommended that the U. S. Department of Agriculture continue its efforts and work with State agencies on improving methods of transporting livestock by rail and trucks.

B. Moving livestock through auction markets.

Marketing costs could be reduced and services improved in auction markets through the use of improved work methods, facilities, and equipment. The following features should be given special consideration, to overcome some of the present shortcomings in markets:

(a) Adequate-size market sites.
(b) Properly designed docks, chutes, and chute pens.
(c) Properly arranged alleys and pens for the most direct flow of livestock between the receiving, selling, and loading-out operations.

(d) Scales with adequate platforms for the most efficient handling and weighing.
(e) Well-designed auction barns, which include sales ring, seating area, office space, etc.

It is recommended that State Departments of Agriculture make available to auction market operators information on the design and operation of facilities suitable for their respective localities.

C. Moving livestock through terminal markets.

It is recommended that State Departments of Agriculture encourage the adoption of improved work methods, equipment, and facilities in terminal yards which would reduce the cost and improve the handling of livestock.

D. Developing improved wholesale facilities for handling meats and meat products.

Cartage, porterage, shrinkage, and handling losses incurred at wholesale markets for meats and meat products could be reduced by dealers occupying properly designed facilities with direct rail connections, and platforms at truck and rail car height.

It is recommended that State Departments of Agriculture work with representatives of the U. S. Department of Agriculture in studying market needs and in the promotion of market developments.

E. The need for technical personnel.

It is recommended that State Departments of Agriculture give consideration to adding properly trained engineers to their present staffs to disseminate research data on facility design, equipment, and improved work methods to individual firms at all levels of the livestock and meat marketing system.

HOW TO EXPAND OUTLETS FOR FARM PRODUCTS

NEED FOR AND METHODS OF EXPANDING MARKET OUTLETS

G. Chester Freeman, Chief, Food Trades Branch,
Food Distribution Division, Agricultural Marketing Service,
U. S. D. A.

I am happy to have the opportunity to meet with you, in this National Marketing Service Workshop, as you tackle the problem of how to expand outlets for farm products. I have enjoyed sitting in on your earlier discussions, in the full days you have at these workshops. And I have learned a lot from them. I expect to learn a lot from this one too -- and hope that I may, in return, be able to contribute something to it.

But let me clarify one point, at the very outset, on the scope of my contribution. The topic I've been assigned is: The Need for and Methods of Expanding Market Outlets. The need for expanding market outlets as a solution to marketing problems can be covered quickly.

But I doubt that I can cover the methods either quickly, or completely. I can tell you about the methods we're using in the Food Distribution Division--particularly the methods we are using in our Plentiful Foods Program. And Bill Crow assures me that is what you would be most interested in hearing. But I want you to know that I am intentionally confining my remarks to this area. I don't want to mislead you by my treatment of the topic -- and I don't want to minimize the value of the many other methods that are being used to expand market outlets for farm products.

We in the Food Distribution Division are vitally concerned with expanding domestic food markets. It's one of the long-range objectives of our programs. It's closely related to another long-range objective: to promote food consumption levels that will result in improved health and well-being of our people. And we think it's the key to an immediate objective -- to assist in solving the marketing difficulties of foods in plentiful supply.

I know that you share our interest in this work. Your conversations with me have indicated a good understanding of our national problems along this line. And my many years of field service, and our close contacts with the field through our area organization, have given me a full appreciation of your problems at the State level.

We in the Federal Government, and you in the State Governments, have a common interest in expanding market outlets where that expansion provides a solution to marketing problems. We have been very pleased to note the evidences of growing interest in this field. I am gratified that you have given the topic such prominence in a National Marketing Service Workshop. And I hope that out of what I can tell you -- and what you can tell me -- we can both increase the effectiveness of our efforts.

Our work along these lines goes back more than 20 years.

Let me tell you about some of the ways the Food Distribution Division of the Agricultural Marketing Service has, over the years, been expanding market outlets.

One of our favorites is the National School Lunch Program. I'm sure you're all familiar with it -- that there's no need for my telling you how it works.

But let me tell you about some of its results. Last school year, the National School Lunch Program was in operation in more than 56 thousand schools -- and it reached more than 10 million children, with one billion 700 million good nourishing school lunches. And those lunches used two billion 200 million pounds of food -- which cost nearly 390 million dollars. Most of the food, incidentally, was purchased locally.

Special School Milk Program

This year we are making a special effort to increase milk consumption by school children -- in our Special School Milk Program. The Agricultural Act of 1954 directs that, for the next two years, 50 million dollars of funds of the Commodity Credit Corporation shall be used annually to increase the consumption of fluid milk by children in nonprofit schools of high school grade and under.

Many of you are familiar with this program. Many of you have been extremely helpful in working with the dairy industry and State and local educational officials to locate sources of milk supply, to arrange delivery schedules, and in many other ways to help the program accomplish its objective of getting more milk to more children.

We have received fine cooperation in launching this program. Every State in the country is now participating. Arrangements with the last of the States were completed and approved last week -- less than two months after we announced it. Many schools throughout the country are already serving increased amounts of milk to larger numbers of children. And many other schools are completing final plans for participation.

We hope that all of you who have already contributed so much to successful establishment of the program will continue to cooperate, with equal vigor, in helping it to attain its ultimate objective.

Plentiful Foods Program

Our Plentiful Foods Program is another method devised to expand market outlets for foods having marketing difficulties. It's an action program, designed to increase the movement of abundant foods, through regular channels of trade. It operates at the final step in the food merchandising process -- the step that directly influences consumer buying.

We operate at that level because -- 6 out of 10 food purchases -- the selections are made by impulse. We gain maximum movement for the plentiful foods by working with the food trades to influence that impulse buying, and by working with food editors of the various media to condition consumers toward the impulse that makes the sale.

Over the years, the Plentiful Foods Program has enjoyed mounting success. We have demonstrated, we believe, that such a program can be -- that it is effective.

Let me emphasize that the Plentiful Foods Program is a cooperative activity. And we enjoy wonderful cooperation in conducting it -- both from within Government, and from private industry.

But let me emphasize, too -- that the food trades cooperate because of their sense of public service and their willingness to help farmers with their marketing problems. They have told us that they will go along with us, in a Plentiful Foods Program, when the commodity really needs marketing help. The modern food store carries anywhere from 4 thousand to 6 thousand items -- every one of them competing for promotion, and a favorable point-of-purchase position. Management wants to sell all these items -- or it wouldn't bother to stock them. So, promotion-wise, it plays no favorites.

The food trades, rightfully, we think, won't go along with a program on a commodity that's not really plentiful. That would not be a program in the public service. In fact, it might be against the public interest - since it might promote an unjustified increase in prices to the consumer. We don't, and we won't, try to fool them -- and we've established rigid standards for the designations of plentifuls, to be sure.

That reasoning is familiar, I know, to many of you who have been cooperating with us for some time, in giving us the benefit of your knowledge of prospective supplies. We know it requires extreme restraint on your part to refrain from telling us, every month, that everything your State grows is in plentiful supply. But we could not of course, in good conscience, solicit the cooperation of the food trades for a list based on such selfish standards as that. And we appreciate that you have considered that factor in giving us the advice we need from you.

Some of you in the States are particularly active in this plentiful foods field--conducting programs of your own, which apply these same principles to the marketing of your State's products.

When your State has a bumper crop of any commodity, some consumption increase can be realized within the State. It isn't too difficult to get your home-Staters to eat a little more of a native product -- particularly a good one. And here -- just to touch briefly on the quality issue -- I'm sure that we don't increase consumption any by following that old tradition of shipping the best quality outside the State, and dumping the rest on our home markets.

But, to get back to those surplus crops, the largest potential for increasing consumption lies not in the State, but outside it. You're involved, then, in regional and national distribution. And let me tell you in detail, at this point, how our Plentiful Foods Program works in that field:

Most of our activity is concentrated on our regular monthly plentiful foods list. Six weeks before the start of each month, we ask Department commodity specialists to recommend items for that month's plentiful foods list. When these recommendations are received, we forward them to our five area offices for their review. Our food trades specialists then carefully analyze the area prospects for these commodities -- and give us the benefit of this information on their local situations, suggesting the deletion of some items, the addition of others.

All the information we have gathered is then taken before the Plentiful Foods Review Committee -- meeting about one month before the start of the month to which the list applies. This Committee includes representatives of all the Department agencies concerned with our food supply. We have taken these extreme precautions, to base our list on the best possible information -- because, again, we recognize the importance of building its reputation for accuracy.

The Committee decides on the list, and then we put it to work. Here is a typical list -- December's -- published in Washington for users who need a national list. In turn, each of our five area offices regionalizes this list according to local conditions, and puts out a similar list for its geographic area. This publication is mailed to a large list of food trades users -- built up over the years, and kept current by regular circularization.

At the same time, stores on the plentiful foods list go out to trade publications -- as an important auxiliary to our mailings, in advising the trade of listed items to enable them to plan their merchandising.

Simultaneously, food trades specialists from our area offices are busy making the rounds of their food trade contacts - calling on wholesalers, jobbers, retailers, restaurants and other public eating places, institutional feeders, and all the rest ... to maintain the cooperation of regular contacts, and develop new cooperators.

Meantime, the flow of information materials has been started, to attract consumer attention to items which have been listed, and to increase consumption by suggesting new ways of using them. Our Information Division supports our Plentiful Foods list closely, with a continuing background of material to all those who advise consumers -- to magazine and syndicate writers, advertising agencies, newspaper food editors, and radio and television food commentators. That flow of material starts with the establishment of the list, and is maintained through the month to which the list applies.

Special Plentiful Foods Campaign

Special Plentiful Foods Campaigns are similar to this -- but far more intensive. These special campaigns are conducted for foods when supplies are so large that they have created a serious marketing problem. Usually, the campaign is timed to coincide with the peak of seasonal supply. We are generally able to anticipate these special campaigns, some time in advance -- and that longer advance preparation, of course, increases the effectiveness of the campaign. Food merchandisers have more time to prepare posters, bulletins, table tents -- and all the other materials that influence purchases at point of sale. And we're able to enlist the cooperation of advertisers and editors of national magazines -- who necessarily prepare their materials well in advance of publication date.

Food trade participation in these special campaigns has now increased to the point where they are most accurately identified as industry-Government promotions. For example, we cooperated with the dairy industry in staging a Special Plentiful Foods Program during June Dairy Month. We cooperated with two industries — meat and vegetables — in the beef and vegetable campaign early in October. That joint venture proved so successful we expect more like it. And we're making plans now to cooperate with the poultry industry in a Special Plentiful Foods Program during January Egg Month.

On such a Special Plentiful Foods Program, we try to "pull all the stops." The beef and vegetable campaign, for example, was launched at a Chicago meeting back in July. I don't want to read you the list of those attending, but let me give you an idea of the organizations they represented: American National Cattlemen's Association, American Meat Institute, National Livestock and Meat Board, United Fresh Fruit and Vegetable Association, Super Market Institute, National Restaurant Association, and many more of similar caliber. When a meeting commands that kind of audience, you can be pretty sure of getting results.

As the beef and vegetable drive got under way, Secretary Benson wrote personal letters to all the principal food trade associations — the key to widespread trade participation. He issued press releases endorsing the campaign, and urging cooperation in it. The Secretary appeared as featured speaker at a luncheon for food editors, in New York City. He also appeared in a film short, for television stations. And President Eisenhower featured beef stew at a summer White House luncheon that attracted wide attention.

Meantime, we issued special fact sheets on the drive — and all our regular plentiful foods activities shifted into high gear. Our food trades men concentrated their calls on the beef-and-vegetable promotion — and we stepped-up the flow of stories and pictures to all information media.

Those are some of the efforts we put into a Special Plentiful Foods Program. And they raise this question: Do the results justify the efforts?

Most of you know that they do — even though it is difficult to cite precise sales increases which can be attributed to plentiful foods promotion.

Increase of Per-Capita Beef Consumption

But, in the case of beef, we can fairly well measure the success of the campaign: Per-capita consumption has increased from 61 pounds in 1952 to 77 pounds in 1953—and to 79 pounds this year. Markets have been able to absorb the larger supplies, and we're coming through the year without any build-up in storage, without any Government buying, and with fair prices to producers.

I wish I could quote you some of the reports we get from the food distributors who have cooperated in our campaign. I don't want, of course, to divulge their business, but they report sales gains ranging from modest to substantial. Multiplied by the many cooperators, these increases give indication of the important expansion that can be made in market outlets for distressed commodities through operation of the Plentiful Foods Program.

The Outlook Conference we have just had in Washington emphasizes the need that's ahead for such efforts. We surely have plenty of food this year — and our outlook specialists tell us there's just as much in prospect for 1955. As I have told you, we're now making plans for a Special Plentiful Foods Program for January Egg Month. A special on rice is in the offing. We'll be with June Dairy Month again this year, I'm sure. And another big cattle run is inevitable next fall. And for all these campaigns, we need a new gimmick -- a dramatic merchandising idea.

We are anticipating an active year ahead for our Plentiful Foods Program. And we are anxious to improve it in every way we can -- to help it achieve its full potential for benefiting consumers, producers, the food industry, and the national economy, by promoting efficient use of abundant food production.

RECOMMENDATIONS BY SIX CONFERENCE GROUPS FOR EXPANDING OUTLETS FOR FARM PRODUCTS

I. Dairy Products

Donald E. Wilkinson, Wisconsin, Chairman
Louis Herrmann, AMS, Secretary

The dairy industry has been noted for industry-wide, long-range promotional programs. The National Dairy Council for more than 35 years, and the American Dairy Association since the 1930's, have had the important objective of establishing the use of dairy products firmly among our permanent food habits. In this continuing work, the State Departments of Agriculture have an important place with industry groups and with other State and Federal agencies.

Dairy products have a priceless asset, promotionally, in their preeminent nutritional values. But as promotional work is expanded merchandising methods should receive increased attention. Retail stores can be helped to an awareness of the dollar possibilities of their dairy departments and provided with materials and know-how for more effective dairy merchandising. Retailer participation in promotion campaigns can be encouraged.

Restaurants are a market outlet which can be better utilized--better serving practices could greatly increase the use of butter, recognizing it as a symbol of quality and service. Use of other dairy products in food preparation and service also can be encouraged.

Other distribution practices can be brought to higher standards through service programs: adoption of new types and appealingly decorated containers, and adoption of new methods such as vending machines and packaging in larger-size containers.

Use of milk and dairy products in schools can be a fruitful objective for service programs, opportunities being available to work with educational agencies in the current Special School Milk Program, and to encourage the use of other dairy products in preparing foods served in school lunches.

Seasonal problems of the dairy industry are not the same as those of fruits and vegetables, because, for example, seasonal dairy surpluses have always been made into butter and other storable products. Dairy products fit into seasonal promotions because of their place in dietary preferences. Lenten dishes and hot weather foods are opportunities to be developed seasonally.

II. Poultry and Eggs

William P. Charron, Maine, Chairman
Hermon Miller, AMS, Secretary

A. Identification of marketing problems.

All poultry products have been in large supply during 1954, and trends in production and handling would indicate that supplies will continue at a high level. The discussion group recognized that this field presents a real challenge, a challenge which, if properly met, can provide a great service to the poultry industry. It is recognized that State personnel must view the problem from two points of view: First, they must consider the national picture because in our American system producers compete in a national market; second, they must do all they can to aid producers in their own State. Consideration was given to the following problems: Local legislation which may deter the widest possible distribution of poultry products nationally; use of schools to train retailers how better to merchandise poultry products; possibility of broadening the distribution of poultry products; possibilities for offering poultry products in new forms; quality, packaging, and labeling; consumer service programs; special feature programs; and cooperation with the USDA Plentiful Foods Program.

B. Ways to initiate and carry out programs to expand market outlets for poultry.

1. Local Legislation.--State personnel are encouraged to review any local legislation or regulatory acts from the point of view of their effects on the broadest possible expansion of the market for poultry products. The question was raised as to the purpose and effectiveness of programs such as requirements to stamp eggs with State of origin, etc. State personnel should also work with any minor subdivision within their State and with State officials to assure sound programs for the control of sanitation in poultry processing plants.

2. The U.S.D.A. has completed a 4-year contract with the Poultry and Egg National Board which resulted in training approximately 20,000 retail people in better ways to merchandise poultry products. This is a wide-open field for participation of State personnel. Its value has been proven.

3. Quality, packaging, and labeling are all important factors which affect consumer acceptance and encourage repeat purchases of poultry products.

Programs to stimulate general recognition on the part of consumers of relative values and uses for the various grades and sizes of eggs will assist in maintaining and expanding consumption. Assistance should be given to handlers in preserving quality to maximize consumer satisfaction as a means of encouraging consumption. Assisting handlers--packers, retail stores, etc.--in proper attention to packaging and merchandising of all poultry products, both poultry and eggs, will encourage consumption.

4. It has often been said that many of our smaller towns do not have poultry products available for customers. This is particularly true of turkeys. Perhaps one of the largest areas for expanding market outlets for poultry products would be to develop practical ways to service this market.

5. Each month the U.S.D.A. publishes a list of foods determined to be plentiful. Poultry products have appeared on this list almost continually during this marketing year. State Department of Agriculture personnel working with State Extension personnel and other cooperating agencies should lend their support to this program.

6. It has been stated that many new customers appear when products are offered in new forms. The possibility of expanding market outlets for poultry products through diversified forms in which poultry products are offered should be explored. State Department of Markets personnel should cooperate with research and extension personnel to determine possibilities in this area. Some studies have revealed encouraging results from experimentation with window-type egg cartons, and from use of egg cartons to merchandise small size eggs 16 in a container rather than 12. These are examples of new endeavors which may result in expanding market outlets.

7. Consumer Service Programs. State personnel should make use of various means to acquaint consumers with nutritional value; proper ways to cook, prepare, and serve the various poultry products; and programs to inform consumers regarding quality to help them interpret the various qualities. In these programs other agencies having similar interests and responsibilities should be called upon for cooperation.

Many States assist in special feature programs such as broiler festivals where opportunities for wide publicity is provided. Food editors from the various nearby city and local radio and press services may be invited as guests. Encourage retail stores to conduct "special" sales campaigns to assist in relieving local surplus situations which develop and to aid in national programs of a similar nature. In these endeavors, cooperation of all segments of the industry--poultry breeders, hatcheries, feed dealers, processors, handlers, etc.--should be encouraged.

III. Fruits and vegetables

C. J. Carey, California, Chairman
Arthur E. Browne, AMS, Secretary

One of the most difficult problems facing producers of fruits and vegetables is the expansion of market outlets for their products. This problem has two principal facets: (1) Broadening the markets for commodities for which there are continuing surpluses as the result of downward consumption trends or the loss of long-time export markets; and (2) finding outlets for seasonal or temporary surpluses.

Fruit growers, unlike producers of many agricultural products, have substantial investments in orchards, groves, and vineyards which take years to reach bearing age. Once established, production of these fruits continues from year to year with little variation, except as influenced by weather, regardless of market demand. The loss or reduction of export markets for many fruits has intensified the search for broader domestic markets. Potato producers, faced with a long-term downward trend in per capita consumption, have sought new products or new uses as a means of arresting or receiving this trend. Vegetable producers have been subjected particularly to temporary or seasonal surpluses due principally to weather conditions.

Among the possible approaches to expanding market outlets considered by the group were the following:

1. Cooperation with producer and food trade groups in the USDA Plentiful Foods Program and in industry-sponsored commodity promotion programs on a national, regional, or local basis.

2. Encouragement of State marketing agreement and order programs for fruits or vegetables to regulate quality, grades, sizes, or maturity of products reaching markets and to conduct industry promotional and educational programs.

3. Conduct surveys of trade preferences and distribution practices in order to assist growers, shippers, or processors to produce and market products that will meet with greater acceptance.

4. Supply more current information to potential buyers, such as truckers, wholesalers, chain stores and other food retailers, on probable size and location of crops that are in temporary surplus or at seasonal peak.

5. Assist commodity groups, including producers, handlers, and processors, to analyze their marketing methods, such as grading and packaging practices, methods of sale, and geographic distribution in order to develop greater acceptance of their products in broader market areas.

6. Encourage development of new products or uses, including assistance to growers in producing suitable types and varieties. Potato chips, frozen french-fried potatoes, prune juice, and lemon products are among the new products and uses that have afforded growers expanded outlets.

7. Encourage improved retail and wholesale merchandising practices for fruits and vegetables.

IV. Cotton and Tobacco

W. P. Hedrick, North Carolina, Chairman
Marshall J. Goss, ARS, Secretary

Cotton

The contribution of raw cotton marketing interests to the development of new outlets for American cotton consists principally of doing a better job, particularly in the development of marketing techniques and practices essential to the movement of cotton from the farm to its best end use.

The following statement from the 1953 National Marketing Service Workshop report is reemphasized: "Marketing specialists should promote all possible improvements in marketing practices which will reduce distribution costs and thereby improve the competitive position of cotton. Whenever new uses are found or developed by research agencies, every effort should be made to encourage their fullest use."

Tobacco

The working group has given serious consideration to the possibility of expanding market outlets for tobacco and is of the opinion that very little can be done at the present time; however, public marketing service agencies should be aware of the existing problems requiring solution and cooperate with research agencies to produce high quality tobacco which will meet manufacturers' and consumers' demands.

V. Grain

John Winfield, North Carolina, Chairman
Roy Allgyer, ARS, Secretary

Notwithstanding the fact that several grain crops are being raised under production control, the supply of most grains exceeds the demand. Probably no segment of the agricultural economy has a greater problem of expanding markets than the grain industry.

The emphasis placed on a high-protein diet for the average American plus the increase in production of food grains intensify the problem of expanding grain markets, especially wheat. Extensive production of wheat varieties with poor baking and milling qualities further complicates the outlet problem, however, modernized standards for grades should channel a greater volume of low quality wheat out of the food grain market.

While the committee feels that the problem apparently has no "quickie" solution, steps should be taken to attack the matter on these fronts:

1. Improve and maintain domestic and foreign markets by

   a. production of varieties of known and proven quality,
   b. marketing uniform grades to meet purchaser and merchandising demand, and
   c. raising the dietary level of low-income groups.

2. The problem of expanding and developing new uses for grain and grain products should be explored on every front including studies on increasing palatibility and nutritive value.

3. Closer coordination between surplus- and deficit-producing areas is desirable. This can be accomplished by State and trade organizations working together.

4. Surveys should be made to determine the need for and location of processing plants for food or feed, particularly in the Southeast.

The problem of expanding market outlets is a challenge to all facets of the trade. Producers, processors, and trade associations—all have a responsibility and an opportunity to effectuate an expanding grain market program. Public agencies, State and Federal, can make a valuable contribution by augmenting and supplementing these combined efforts.

VI. Livestock

Matt Jennings, Tennessee, Chairman
George Turner, AMS, Secretary

A. Expanding outlets for feeder and replacement stock.

Many areas have livestock producers who do not have sufficient numbers of livestock or uniform quality to attract buyers locally or to enable them to ship to terminal markets. In such areas, there is a definite need for efficiently organized and properly conducted sales where these producers can consign their livestock for sale on a graded basis, and where there will be sufficient volume of various grades to attract outside buyers. State Departments of Agriculture can render assistance in expanding outlets for livestock, livestock products, and meats by continuing their work in:

1. Scheduling sales with local livestock auction markets and arranging for consignments from producers.

2. Grouping animals to be sold into merchantable lots in accordance with the needs and desires of prospective purchasers.

3. Arranging for wider publicity so that buyers are fully informed as to numbers and grades of animals to be sold.

B. Expanding outlets for wool.

1. It is recommended that the States continue their assistance in the improvement of market outlets through assistance in organizing producer pools.

C. Expanding outlets for meats.

1. It is recommended that the States give consideration to developing a program for coordinating their work with the efforts of the U. S. Department of Agriculture and trade groups in the Plentiful Foods Program.

2. Quality and price play important roles in determining per capita consumption of meat. In order to improve quality of meat, it will be necessary to improve the quality and type of animals that are used for breeding and feeding purposes. It is proposed that the State Departments of Agriculture collect and disseminate information giving the quantity, quality and location of available supplies of purebred breeding stock and feeder cattle, calves, hogs and sheep in their State.

3. It is recommended that the Federal government through its respective agencies continue its efforts to develop and expand foreign outlets for meats.

SUMMARY OF THE CONFERENCE

Roy W. Lennartson
Deputy Administrator for Marketing Services
Agricultural Marketing Service

Rather than attempt to summarize a conference of this nature, it is perhaps more appropriate to make some general but important observations with respect to the program, as a whole, and to the things to which all of us in the marketing services should be alert in tuning to the future.

We have seen evidence during the past few days of the importance of the process of evolution in the development of marketing service programs. During the initial stages, few of us had any concept of where we were going in this field of matched-fund service work. Furthermore, we lacked the tools, in terms of perspective, qualified personnel, and knowledge, to use the results of research which were available and forthcoming as a result of the Agricultural Marketing Act. It is now crystal clear, as a result of this series of meetings which you have just concluded and those of last year, that we are clear with respect to our perspective. We should all feel proud of the type of personnel we have been able to bring together to focus on these programs. We have improved our techniques and approaches to the problem, which we now find is more easy to define. Finally, we have learned how to use the results of research which are pouring forth on the broad programs now under way on the part of research agencies.

Share of Consumer Income

I think we should clearly recognize the vigorous effort that agriculture, as a whole, is now making and will necessarily be compelled to continue to make to command its share of the consumer's expendable income. There are two approaches to this problem -- the matter of inducing the consumer to spend a fair share of her dollars for agricultural products, as such, and that for each dollar she spends the producer obtain his proper share. In its broad aspects, we can observe the development of strong, national, commodity organizations pouring forth efforts to induce the consumer to buy specific products. Associations such as the Poultry and Egg National Board, the United Fresh Fruit and Vegetable Association, the National Livestock and

Meat Board, the American Dairy Association, to mention a few, are embarking on extremely vigorous programs touching upon production, merchandising, and distribution in an effort to keep before the consumer the merits of the particular product they represent. These organizations, like yours, are vitally interested in getting a more efficient and effective merchandising job done. They, likewise, are interested in stabilized markets and greater returns to the producer of the dollar the consumer spends for a particular item.

There is little question but that we in the Federal government, Congress, and industry are going to look more and more to the States to expand activities nearer producer and consumer groups. This means that the State Departments of Agriculture must expand their activities and assume responsibilities at this level, if they are going to properly serve agriculture within their States. The proper assumption of such responsibilities will depend upon your ability in obtaining and training qualified personnel, being alert to the needs and demands of interested groups, and making use of the results of research and the educational arm of the Extension Service in your particular State.

Annual Reports

One final observation -- one which I have mentioned at previous meetings -- is the need for paying greater attention to reporting the results of your projects in your annual reports. In the early years of this program, we paid more attention to the development of objective project statements which would clearly define the area of work and methods of procedure. There is much to be desired on our part and that of those responsible for reporting on your activities, as a justification for the program and the funds with which it is run, in obtaining records of program results. You are doing excellent work on many of these projects but, unless you record this adequately, the program will eventually suffer. These reports should not only be used for reporting the program on a national level but on the local level as well. I urge you to give closer attention to this particular problem during the coming year.

It is extremely significant that we had in attendance at this Workshop a substantial number of Commissioners, Secretaries, and Directors of Agriculture. This is not only heartening to us in the Department but should also be satisfying to you folks who are planning and directing these programs. I am sure that a greater number of Commissioners would have attended had they not had previous commitments.

PERSONS ATTENDING THE WORKSHOP

Abbey, Paul R.	State Dept. of Agriculture	Richmond, Va.
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